The Hunterian Lectures
ON
THE TOPOGRAPHICAL ANATOMY OF THE ABDOMINAL VISCERA IN MAN.

Delivered before the Royal College of Surgeons of England on March 4th, 6th, and 8th, 1901,

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LECTURE II.[1]

Delivered on March 6th.

MR. PRESIDENT AND GENTLEMEN,—At the conclusion of the last lecture we noticed: (1) that when the stomach is high in the abdomen the liver also is found high up and placed well under cover of the ribs, and in these cases also the transverse colon is generally high in the abdomen and mostly distended, and, in many cases, it passes upwards in front of the stomach into the vault of the diaphragm; (2) that the stomach may be distended without coming much lower in the abdomen, but that in the cases in which a distended stomach (usually of a cylindrical shape) extends low down in the abdomen, with the liver maintaining its normal level, the pylorus will not be displaced downwards to any material extent; and (3) that when the liver is enlarged and extends low down in the abdomen, the pylorus will be found low down, as well as, usually, the main part of the body of the stomach. These conclusions are further reinforced by considering the

LATERAL DISPLACEMENTS OF THE PYLORUS.

By means of the strong right part of the lesser omentum and the structures contained within it the first part of the duodenum with the pylorus is firmly held up to the under surface of the liver, and the position and obliquity of the pylorus by that means largely determined. In 34 cases the pylorus was on the middle line or to the right of it and in six cases to the left of it. The first group of 34 cases contains 14 cases in which the pylorus was on the middle line or not more than two centimetres to the right of it; in a further 14 cases it varied from two to four centimetres to the right; and in six extreme cases it was more than four centimetres—up to six centimetres—to the right of the middle line. The six cases in which the pylorus was to the left of the middle line varied up to 3·5 centimetres to the left. So that in 45 per cent. of the cases the upper border of the pylorus was not more than two centimetres from the middle line to one side or the other, and in 22·5 per cent. it was on the middle line or to the left of it. (The measurements relate in all cases to the upper border of the pylorus.) The direction of the pylorus was practically vertical in 60 per cent. of the cases, oblique in 25 per cent., and transverse in 15 per cent.

Displacements to the left.—In all but one of the cases in which the pylorus was on the middle line or to the left of it the liver extended low down and far over to the left at a low level and in the remaining case had a very massive omental tuberosity fitting into the lesser curvature of the stomach, although the lower border of the liver did not extend to the left of the middle line in the plane of the upper border of the pylorus. These cases almost warrant us in saying *that when the liver is enlarged and spreads downwards across the abdomen at a low level we may expect to find the pylorus on the middle line or to the left thereof.* An examination of these cases does not lead to the conclusion that a pylorus to the left of its normal situation is particularly associated with an empty condition of the stomach, but if we look at those cases in which the pylorus was situated more than 3·5 centimetres to the right of the mid-line we find that they are specially associated with a well-filled or distended condition of the stomach.

Displacements to the right.—Professor J. Symington[2] pointed out that the left overhanging part of the liver is tilted upwards and to the right on its long left lateral ligament by the filling stomach. If this ligament be long and membranous the distended stomach can the more readily tilt the liver upwards and to the right and insinuate itself further to the right beneath the liver. The strong portion of the lesser omentum attaching the pylorus to the under surface of the liver has an obliquity downwards and to the left and would not resist a considerable movement in a right direction. A fair guide to the degree of lateral movement the liver has undergone may be obtained by noticing the situation and direction of the attachment of the falciform ligament to its anterior surface. On the diagrams of the liver, with the exception of a few of the early cases in which the point was unfortunately omitted, the attachment of the falciform ligament is indicated by interrupted lines. Those cases in which the pylorus was situated further to the right than usual are so uniform in the conditions they present of a well-filled or distended stomach (especially one that did not come much lower than usual in the abdomen), with the liver tilted upwards and to the right, so as to lie more or less completely under the right costal arch, that they may be sufficiently represented in tabular form.

Table showing the Conditions when the Pylorus is Displaced to the Right.

Case No.	Distance to right of middle line of the upper border of the pylorus.	Remarks.
2	3·5 centimetres.	Stomach distended and low. Liver* a little tilted, low, and somewhat enlarged. Colon, no special feature.
14	,,	Stomach full. Liver tilted. Colon very distended, pressing up the stomach.
21	,,	All points the same as No. 14.
26	,,	Stomach full, thrown into folds. Liver not much tilted. Transverse colon normal.
27	,,	Stomach moderately filled. Stomach and liver both pushed down by intra-thoracic growth. Liver not tilted. Colon very tortuous and distended.
11	4 ,,	Stomach full. Liver tilted.
28	,,	Stomach distended. Liver tilted and much pushed over to the right. Colon distended.
29	,,	Ditto in all respects.
5	4·5 ,,	Stomach full. Liver and stomach pushed up and to the right by distended colon and intestines.
10	,,	Stomach very distended. Liver pushed almost entirely to the right of the middle line.
32	,,	Stomach very distended. Liver much tilted. Transverse colon prolapsed.
28	,,	Stomach very distended. Liver tilted.
35	5 ,,	Stomach partly filled, thrown into folds. Liver and stomach both pushed upwards and to the right by an enormously distended colon. Liver almost entirely to the right of the middle line.
4	6 ,,	Stomach distended. Liver large, not much tilted to the right. Colon low and tortuous.

* The tilting of the liver is of the left lobe to the right and upwards.

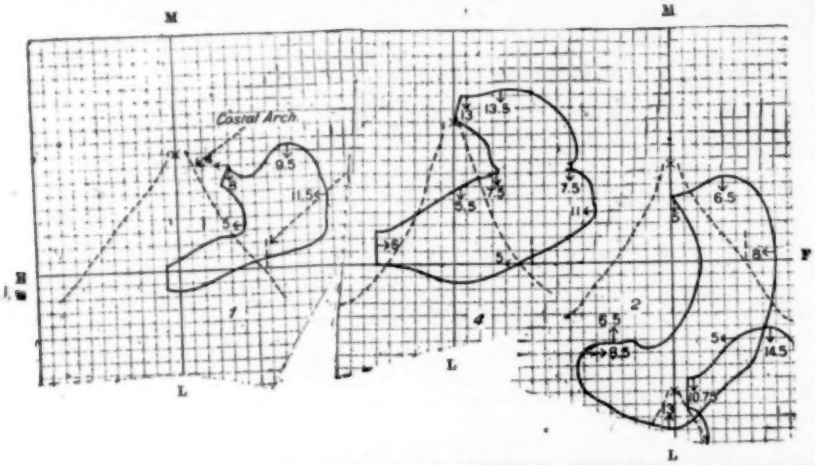
These cases, however, by no means include all those in which the stomach was distended.

MOVEMENTS OF THE STOMACH.

Although there were so many cases in which the stomach was well filled or distended there was only one example of the condition, figured by Symington as that of the normal distended stomach, in which the pylorus is situated behind a portion of the body of the stomach which extends further to the right than the pylorus on an anterior plane. It is doubtful if the pylorus moves more than two centimetres to the right in the course of filling of the stomach if it moves at all. In filling of the stomach the large hollow to the left behind is apparently first occupied, then the greater curvature in front, to the left of and below the liver, comes to the anterior abdominal wall, at the same time tilting upwards and to the right in some measure the left lobe of the liver, and directing the lesser curvature more to the right and backwards; then, if necessary, the stomach extends somewhat to the right, downwards and forwards, pressing down

[1] Lecture I. was published in THE LANCET of March 16th, 1901, p. 759.
[2] On Certain Variations in the Shape, &c., of the Liver, Edinburgh Medical Journal, 1888.

FIG. 4.



The stomachs for Cases 1, 4, and 2 shown on the reduced scale about the middle line (M, L) and the upper transverse abdominal line (H, F). Case 1 is an example of the type of stomach with a cylindrical portion towards the pyloric end. Case 4 is a good example of the constriction which is commonly found along the left border. Case 2 shows the cylindrical stomach of chronic distension displaced downwards by an enlarged liver. The figures indicate the distance in centimetres from the surface lines.

FIG. 5A.

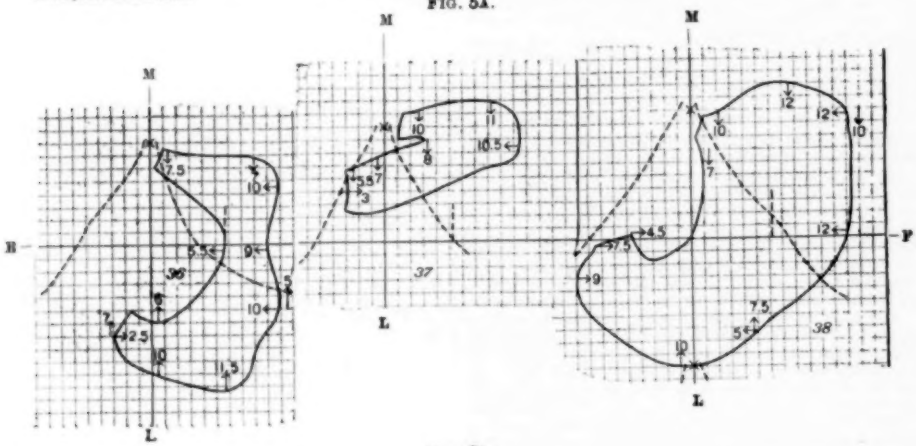
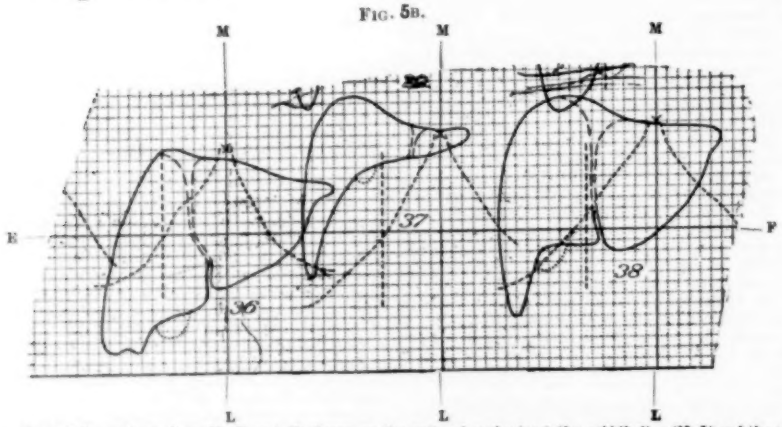


FIG. 5B.



The stomachs and livers from Cases 36, 37, and 38 shown on the reduced scale about the middle line (M, L) and the upper transverse abdominal line (H, F). Case 36 shows the displacement of the pylorus when the liver is low down. Case 37 shows the position of the parts when they are raised up by distended intestines below. Case 38 shows how the pylorus is not displaced downwards to any material extent when the stomach alone is low down. The scale represents centimetres.

before it the projecting anterior border of the pancreas and the transverse meso-colon.

THE INFLUENCE OF THE STOMACH UPON THE SHAPE AND POSITION OF THE PARTS BEHIND IT.[3]

The parts behind the stomach in the hardened specimen or in a good fresh subject present a well-marked and regular concavity for the reception of the cardiac portion of the stomach which Birmingham[4] aptly described as the stomach-bed. When the stomach is removed the convexity of the central part of the diaphragm downwards, produced by the heart, is seen. Passing to the left, this convexity passes into the concavity which lodges the summit of the stomach and which projects, as a rule, one centimetre higher than the highest point of the spleen. This concavity, continued either from above downwards or from the left inwards, passes into the hollow of the gastric surface of the spleen which forms the completion of the outer wall and a part of the floor of a deep concavity which projects backwards to a plane up to six centimetres posterior to the front of the aorta and the pancreas in the middle line. The floor of this concavity, traced inwards, is completed below the innermost part of the spleen by a portion of the anterior surface of the left kidney at its upper part, then by a varying part of the left suprarenal body with the adjoining left semilunar ganglion, and finally by the left crus of the diaphragm as it overlies the vertebral bodies. Traced downwards, the floor of the concavity passes on to the gastric surface of the pancreas, which, sloping more or less forwards, completes the support of the stomach behind and leads on to the transverse meso-colon, which, passing from the anterior border of the pancreas and being itself supported inferiorly by the small intestines, completes, with the projecting portion of the pancreas behind and the splenic flexure of the colon at the left, the support of the stomach below. The extent of the gastric surface of the left suprarenal capsule is determined partly by the position of the convolutions of the splenic artery, which often quite overlap it, partly by the size of the spleen and pancreas, and partly by the position of the pancreas. When the pancreas is pushed upwards by the intestines below, or downwards by the stomach above, it sometimes carries the suprarenal body with it to a certain extent. Moreover, when the upper part of the spleen is enlarged it may spread downwards over the gastric surface of the left suprarenal, as well as over that of the adjoining kidney, and shut them out from direct relation with the stomach. That which we have called the anterior border of the pancreas becomes, when it is traced inwards to the middle line, the lower border of the body of the gland and overhangs the emergence of the mesenteric vessels. It represents at this place the conjoined anterior and posterior borders, the inferior surface having ceased. However, even in the middle line it will be convenient still to speak of this border as the anterior.

We have just said that the stomach, resting on its bed, is supported at its lower part on the gastric surface of the pancreas which, sloping downwards and forwards to its anterior border, forms in varying degrees a supporting shelf for the stomach. When the stomach is lowly situated it tends to press down the anterior border of the pancreas, to increase the vertical depth of its gastric surface and to diminish the depth antero-posteriorly of its inferior surface; that is, to flatten out the pancreas. This process is accompanied by a pushing down of the pancreas over the face of the left kidney; thus giving the kidney an increased gastric surface. In its descent the pancreas occasionally drags down the left suprarenal body with it to some extent. Finally, the descent of the stomach is not accompanied by a descent of the left kidney. The reverse of these processes takes place when the stomach is raised up by distended intestines; the depth on a vertical plane of the gastric surface of the pancreas is diminished, whilst that of its inferior surface is increased antero-posteriorly, its anterior border becomes more prominent, and the gland, being pushed upwards, tends to obliterate the gastric surface of the left kidney. Fig. 6 is designed to illustrate these points; but a detailed comparison of the outlines of the whole series, which are before you, on the reduced scale of the stomach with those of the duodenum and adjoining viscera brings out the points more fully.

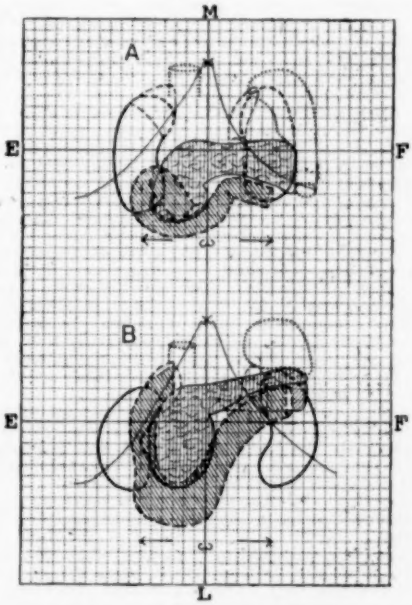
[3] Compare the stomach and liver outlines from Cases 36 and 37 on Figs. 5A and 5B with the outlines of the deeper viscera from the same cases on Fig. 6.

[4] The Topographical Anatomy of the Spleen, &c., Journal of Anatomy and Physiology, vol. xxxi., 1896.

Take two adjoining contrast cases—viz., Cases 36 and 37. In Case 36, as Fig. 5A shows, there was a low stomach. Fig. 6 therefore shows a flat pancreas—that is, one having a large gastric and a small inferior surface—and, moreover, this flat pancreas is seen to be low down on the left kidney, leaving a large gastric surface of the kidney exposed above it. In Case 37, on the contrary, the illustrations show the conditions to be reversed: a high stomach, a pancreas with a large inferior and a small gastric surface—pushed up, that is, from below so much that the kidney has no gastric surface at all.

The ridge presented by the pancreas over the front of the vertebral column was, when present, usually found to the left of the middle line, having a direction downwards and

FIG. 6.



Outline A shows the position of the parts behind the stomach from Case 36 as an example of the displacements when the liver and stomach are low down. Outline B shows the same parts when the stomach and liver are high up (from Case 37, see text). The scale represents centimetres. M, L, The middle line. E, F, The upper transverse abdominal line. ω, Umbilicus. —>, Highest part of the iliac crest.

inwards and corresponding to the groove often present on the overlying part of the stomach. The pancreas projected in the average 0·5 centimetre above the lesser curvature in the middle line.

Professor J. Symington,[5] speaking of the omental tuberosity which the pancreas sometimes presents as it projects above the lesser curvature of the stomach, says: "As a rule I believe it will be found much more distinct when the stomach is distended than when it is empty." In these cases it was very distinct either as a ridge or tubercle in seven instances. In all of these the stomach was described either as well filled or distended and in all cases except one it was low down. When the stomach was fairly high in the abdomen, although distended, the omental tuberosity was noted either as very small or practically absent. Apparently a large omental tuberosity of the pancreas occurs when the stomach is low down and distended, as distinguished from those cases in which, whilst distended, it maintains its normal level.

THE DUODENUM.

The general surface marking of the duodenum has already been given. The first three parts of the duodenum are moulded around the head of the pancreas and the second part

[5] On the Topographical Anatomy of the Pancreas, Transactions of the Royal Academy of Medicine of Ireland, vol. xiii., 1895.

especially lies in a deep groove along its right border. In none of the cases in this series were the lips of the groove sufficiently voluminous to encircle this part of the duodenum, although in most cases the posterior lip of the groove extended sufficiently behind the duodenum to prevent its coming into immediate relation with the inferior vena cava. In the average the bend between the first and second parts the duodenum overlies the lower angle of the right suprarenal body. 13 of the cases, or 32·5 per cent., illustrate the fact that the duodenum often passes to a considerable extent on a sagittal plane, so that when the highest point of the first part of the duodenum is described as being only two centimetres further outwards than the pylorus it does not necessarily indicate that the first part of the duodenum is only two centimetres long, for, as in these cases, it may have passed almost directly backwards. The lower border of the liver usually overlaps the highest part of the duodenum for three and a half centimetres. In the average the *gall-bladder* projected on to the front lies in the right lateral line with its tip directly in front of, and nearly half way down, the second part of the duodenum. The lower part of the gall-bladder is usually lifted off the duodenum by the transverse colon, but in the average it directly overlies the duodenum at the intersection of the upper transverse abdominal line (E, F)[6] and the right lateral line. The nearness of the lowest part of the duodenum to the highest part of the iliac crest has been already pointed out, and when that bone can conveniently be felt it constitutes a useful guide to that part of the bowel.

Variations in the position of the duodenum.—The highest point of the duodenum (usually where the first part bends down to become the second part) averaged 1·8 centimetres above E, F (Fig. 3, Lecture I.). There were 30 cases in which it did not vary more than two centimetres from the average one way or the other, calling the average two centimetres above E, F. There were five cases more than four centimetres up to 6·5 centimetres above E, F, which we will call those of high level; and five cases lower than E, F, up to 4·5 centimetres below, and these we will call those of low level.

1. *High level.*—All these cases were amongst those that have been already noticed, in which the stomach and the lower border of the liver were at a high level and were, for the most part, pushed up by distended intestines, specially by the transverse colon.

2. *Low level.*—All these were cases in which the stomach was distended and with the liver reached low down in the abdomen.

3. There is a third group of cases in which the stomach was low down and distended but in which the liver maintained its normal level. In these cases we find the duodenum was at its normal level, being held up, as we have previously described, with the pylorus to the under surface of the liver by the strong right part of the lesser omentum.

It becomes evident, on comparing these three groups of cases, that lowering, or increase in size downwards, of the liver is the chief determining agent in depressing the first part of the duodenum, as it is that of the pylorus; and that distension of the stomach alone is not sufficient to produce this effect. Further, it appears that the causes that push up the liver and stomach also push up the first part of the duodenum.

Cysto-colic fold.—Sometimes the peritoneum is prolonged further to the right than the usual position of the right border of the lesser omentum and extends from the transverse fissure of the liver along the under surface of the gall-bladder superiorly, and along the upper border of the duodenum inferiorly, on to the hepatic flexure of the colon, and forms at this place a fold stretching from the gall-bladder to the colon presenting a free border directed more or less to the right. This cysto-colic fold, representing a prolongation of the lesser omentum to the right, was present in 12 cases, or 30 per cent.

The duodenum and the right kidney.—Professor D. J. Cunningham in his "Practical Anatomy,"[7] speaking of the relative levels of the duodenum and the right kidney, says: "The duodenum, moulded as it is on the vertebral column and around the head of the pancreas, is not subject to much variation in position. The differences seen in the figure are probably due to variations in the positions of the kidney." The cases in this series do not support this statement. The duodenum is subject to considerable movements in position in regard to the vertebral column. For instance, between Cases 5 and 7 of this series the difference in level of the upper border of the first part of the duodenum compared with the disc between the first and second lumbar vertebræ was 9·5 centimetres, or nearly four inches—viz., from 5·5 centimetres above in Case 5 to four centimetres below in Case 7. The upper border of the right kidney fell in the same cases only 4·5 centimetres—viz., from 6·5 centimetres above in Case 5 to two centimetres above in Case 7. On Fig. 7 these variations are set out in detail on the two curves; in the upper one A the positions of the highest point of the duodenum and of the upper pole of the right kidney are shown about the line E F, and in the lower curve B about the first lumbar inter-vertebral disc. It is quite evident from these that the duodenum is quite as variable in its level in relation to the vertebral column as the upper pole of the right kidney is, if anything, more so.

We are not concerned in this place with the causes which produce alterations in the level of the right kidney; but it can be said that as far as the cases go they do not enable us to say in any one case, when the relative levels of the duodenum and right kidney are unusual, that the difference is produced by an alteration in the position of the kidney, or even chiefly so. *If the liver be enlarged and lower than usual it is most likely to be the duodenum that is displaced downwards;* and if the liver and stomach be raised up by distended intestines it is very likely that the duodenum also will be pushed up to some extent.

I need not detain you to analyse the lateral variations of the duodenum. In five cases the highest point of the duodenum was either on the middle line or as little as one centimetre to the right of it. An examination of the cases shows that the conditions associated with these displacements run practically parallel with those already described in considering the lateral displacements of the pylorus. In 40 per cent. of the cases the lowest part of the duodenum was at or below the highest point of the iliac crest and in 60 per cent. above it. The duodenum over the middle line is subject in some measure to the various displacing forces that have already been considered. Its lower border averaged 2·3 centimetres above the umbilicus. In 29 cases (72·5 per cent.) it was from one to five centimetres above, inclusive, but in the rest of the cases it varied from 6·5 centimetres above to four centimetres below.

The duodeno-jejunal flexure.—The duodeno-jejunal flexure is held up beneath the inferior surface of the pancreas by the fibrous tissue surrounding the mesenteric vessels and coming down from the diaphragm on to and over the flexure. The overlapping part of the pancreas, situated on the vertebral column just to the left of the middle line, is the least moveable part of the gland, the tail at the left being more freely moved by a distended stomach and the head of the pancreas at the right, along with the duodenum, being more directly exposed to the displacing force of an enlarged liver, as we have seen. Mr. C. B. Lockwood[8] takes the upper border of the duodeno-jejunal flexure to represent the upper border of the mesentery. There were 30 cases, or 75 per cent., of this series in which the upper border of the duodeno-jejunal flexure was not situated more than two centimetres away from E, F, one way or the other. There were three cases more than two up to four centimetres above E, F, and in all of these the stomach was highly situated, being mostly pushed up by distended intestines. There were four cases three centimetres or more up to six centimetres below E, F, and in all of these the stomach was distended and, together with the liver, occupied a low position. There were, however, three other cases in which, whilst the stomach was low down and more or less distended, the duodeno-jejunal flexure was not lower than usual. The plates of these cases show that the liver, though low down, did not directly press on the flexure.

If we contrast these variations with those of the other parts of the duodenum we may fairly say that *the duodeno-jejunal flexure is the most stable part of the duodenum and that a distended stomach, in the absence of an enlarged or downwardly displaced liver, is not sufficient to cause its material downward displacement.*

Shape of the duodenum.—The first and fourth parts of the duodenum are those most subject to variation in shape:

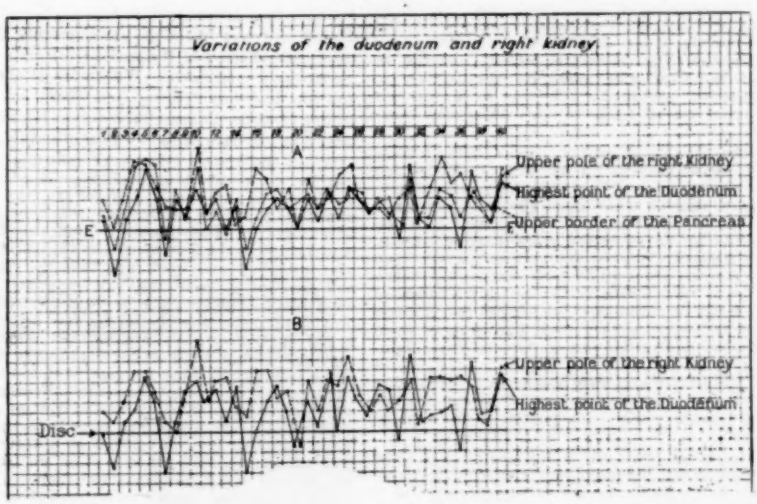
[6] Readers are reminded that this line which, for convenience, is called E, F, is drawn transversely across the abdomen through a point half-way from the upper border of the pubes to the supra-sternal notch.

[7] Vol. I., p. 492.

[8] Lectures on Hernia, London, 1889.

the first from displacements; the fourth from abnormalities, chiefly connected with its special position in regard to the peritoneal folds in its neighbourhood. Time does not permit more than to draw your attention to the special cases. In Case 7 the duodenum (which will be illustrated in the next lecture) was pushed downwards and to the left by the liver; the lower left portion of the head of the pancreas, which is sometimes spoken of as the lesser pancreas, extended across the fourth part of the duodenum into the root of the mesentery. The mesenteric vessels passed in front of this lesser pancreas into the root of the mesentery as usual and the fourth or ascending part of the duodenum was situated to the right of the middle line. The condition can hardly be accounted for by the displacement, and it most likely represents a duodenum with a simple bend like that of the bonnet monkey (Treves[9]). Four cases presented an abnormality in which, after the usual position of the duodeno-jejunal flexure was reached, there was an additional bend towards or across the middle line. In all these cases, as far as the point represented in the illustrations, this psoas muscle marks the division between the two groups. In the 40 adult subjects examined in this research the drawing of the line representing the chief intestinal coils was in many cases so incomplete that in going through the diagrams only 18 were found to be reliable. In two respects these outlines support the conclusions arrived at by Henke,[11] Weinberg,[12] Sernoff,[13] and Mall[14] in their careful work on this subject—namely, that *the upper jejunal coils have chiefly a horizontal direction* from right to left and that *the lower ileum coils have mainly a vertical direction*. The commonest variation found was that there were no coils on the right side of the peritoneal cavity. Most students are able with a little practice to tell *which is the upper end of an intestinal loop* according to the direction of its mesentery. They are taught to grasp it between the fingers and thumb of the left hand, to pass them down on its mesentery to the vertebral column, the fingers being placed on the upper or right aspect of the loop according to its direction. Reaching the vertebral column they determine either the absence of, or, by tracing it with the fingers, the presence of, a twist

FIG. 7.



A, shows the variations in the position of the upper pole of the right kidney, the highest point of the duodenum, and the upper border of the pancreas in regard to the upper transverse abdominal line E, F. B, shows the variations in the position of the upper pole of the right kidney and the highest point of the duodenum in regard to the disc between the first and second lumbar vertebræ. The scale represents centimetres.

additional part of the duodenum was firmly bound down by the peritoneum.

THE SMALL INTESTINES.

It would seem, according to the recent researches of Mall,[10] that the intestines, even after disturbance, shaking or even manipulation, do in a general way fall back again into their previous position and seem to preserve in an individual a certain uniformity in the plan of their arrangement. The investigation of the general or relative position of the various coils of the small intestine is, and must remain, a matter of much difficulty. Although it may not be difficult in the infant, in a good proportion of cases, to point to some general plan in their arrangement, yet, with the changes in diet, the increase in length of the intestines, and the manifold displacing influences to which they are exposed in the adult, it is not easy to consider that the arrangement in the infant, even if shown to be fairly regular, establishes anything but a low probability as to the nature of the arrangement likely to be met with in the adult. The intestines move most freely in the upper left lateral and the central regions of the abdomen. Taking the general direction of the mesentery from above downwards, from left to right, the coils in the left upper region are mostly jejunum and those in the right lower region chiefly ileum. The left upon the mesentery, and the upper end or direction of the root of the portion of mesentery with its attached bowel is found, either the part near the thumb or towards the little finger, as the case may be.

THE PERITONEUM.

Prolapse of the mesentery.—The upper border of the duodeno-jejunal flexure represents the upper border of the root of the mesentery, so that what we have said of displacements of the former applies equally to the latter. Mr. Lockwood[15] in his work gives the upper border of the mesentery as from three to four inches above a base line drawn across the highest parts of the iliac crests. The average obtained from these cases of 9·5 centimetres above the iliac crest agrees very well with Mr. Lockwood's measurements in adults up to 40 years of age. He considers that when the distance is less than three inches (say, seven centimetres or less) the mesentery may be termed prolapsed. He associates prolapse of the mesentery especially with prolapse of the splenic flexure of the colon. We have seen that a low position of the liver and stomach are specially associated with a low position of the duodeno-jejunal

[9] The Anatomy of the Intestinal Canal and Peritoneum, London, 1885.
[10] Development of the Human Intestine, &c.: Bulletin, Johns Hopkins Hospital, vol. ix., 1898.
[11] Der Raum der Bauchhöhle des Menschen, u.s.w. His: Archiv für Anatomie und Physiologie, 1891.
[12] Topographie der Mesenterien, u.s.w., Internationale Monatsschrift für Anatomie und Physiologie, p. 66 et seq., 1896.
[13] Zur Kenntniss der Lage und Form des Mesenteriales Teiles des Dünndarmes, u.s.w., ibid., vol. xi., 1894.
[14] Op. cit.
[15] Op. cit.

flexure, and we should not expect that an enlarged or downwardly displaced liver would operate, in the absence of special laxity of the peritoneal bands or of the abdominal muscles, in so direct a manner on the splenic flexure of the colon. In six cases of this series the mesentery was prolapsed according to Mr. Lockwood's definition. In all of them there was a large or low liver with a distended stomach. In four of them the splenic flexure of the colon was prolapsed, whilst in the remaining two it was not. On the other hand, there were eight cases presenting prolapse of the splenic flexure of the colon, in four of which the mesentery was prolapsed, and in two others it was only just above the line of prolapse. In all of these cases the low position of the liver and stomach was noted, and in the remaining two cases the splenic flexure was prolapsed without the other conditions. In those cases in which the mesentery was prolapsed without the splenic flexure of the colon the costo-colic ligament was found strong and held up the colon in spite of the low liver and stomach. In those cases in which the splenic flexure of the colon was prolapsed, without the prolapsed mesentery and the accompanying conditions, the costo-colic ligament was very thin or badly marked. *We may say, therefore,* that whilst, as Mr. Lockwood remarks, prolapse of the splenic flexure of the colon and of the mesentery are commonly associated, the latter is chiefly related to the position of the liver and stomach; the former, in addition to these circumstances, possesses as a separate determining factor the strength of the costo-colic ligament.

The ages of the patients presenting one or both of these conditions were over 40 years in all but three instances and in two of these the ages were 36 and 39 years respectively. In the other case, that of a lad, aged 13 years, the whole of the viscera in the upper part of the abdomen were displaced downwards by an enormous intra-thoracic growth. The root of the mesentery crossed the middle line low down in eight cases, ranging from 10 to 14·5 centimetres below E, F, and allowed the intestines in the left abdominal quarter a freer range of movement. In all but two of them there was a low transverse colon; in all but three of them the stomach was low down; but only in three of them, however, was the root of the mesentery anything prolapsed at its upper end. In all but two cases the patients were more than 45 years of age. In one of the cases there was a left inguinal hernia consisting only of a portion of the sigmoid flexure of the colon.

The attachment of the *lower end* of the mesentery in these cases was 8·5 centimetres directly above Poupart's ligament. This agrees very well with Mr. Lockwood's figures when it is remembered that in these measurements Poupart's ligament is considered as stretching in a straight line from the anterior superior iliac spine to the spine of the pubes. Mr. Lockwood speaks of the lower end of the mesentery as prolapsed or dragged down when it is less than two and a half inches, or 6·25 centimetres, above Poupart's ligament. The four cases in which this condition existed in this series presented nothing in common except a low position of the hepatic loop downwards of the transverse colon.

THE LOWER END OF THE ILEUM.

The lower end of the ileum occupies a fairly constant position over the right psoas muscle a little below where it comes to form the right pelvic brim. It is nearly always directed upwards and outwards, and the mesentery, where the ileum overlies the psoas, usually shortens somewhat abruptly, allowing the terminal part of the bowel only a limited range of movement. The attachment of the lower end of the ileum is often made firmer by a prominent peritoneal fold—the plica vascularis—which passes downwards from beneath the ileum as it overlies the inner border of the psoas to the middle of Poupart's ligament. Sometimes this part of the bowel is firmly bound down to the iliac fossa, whilst in other cases it lies in the pelvic cavity with a prolapsed cæcum. These positions and mobilities of the lower end of the ileum from the 40 cases may be thus summarised. In eight cases, or 20 per cent., it was firmly fixed in the iliac fossa. In 12 cases, or 30 per cent., it had a limited range of mobility. In 20 cases, or 50 per cent., it was freely moveable in various positions. In four of the freely moveable cases the lower end of the ileum was wholly within the pelvic cavity with a prolapsed cæcum.

A Lecture
ON
SOME RECENT DEVELOPMENTS IN THE ADMINISTRATION OF ANÆSTHETICS.

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GENTLEMEN,—In every department of practical medicine progress is, as you are aware, constantly taking place; and although it cannot be said that the latter half of the century which has just drawn to a close has been conspicuous for any great discoveries in the branch of therapeutics to which I would now direct your attention, it cannot, I think, be denied that very important developments have during that time been effected in the various methods of inducing and maintaining anæsthesia. With most of these improvements you are doubtless familiar, but there are some which, by reason of their comparatively recent introduction into practice, may not have attracted your attention.

Of all the known systems of inducing anæsthesia there can be no doubt that that introduced many years ago by Clover is the best. I refer to the system of administering nitrous oxide and ether in succession. The advantages of this plan are that the initial sensations experienced by the patient are not unpleasant, that consciousness is rapidly destroyed, and that the stage of struggling and excitement is in the vast majority of cases wholly eliminated. The system is, moreover, a remarkably safe one, provided that the anæsthetist has had some little experience in its application. It is a mistake, however, to suppose that any system of inducing anæsthesia can be made perfectly safe, and it thus happens that even with this nitrous oxide-ether sequence cases occasionally present themselves in which alarming or possibly fatal symptoms arise.

Clover's system of inducing anæsthesia by means of nitrous oxide and ether may be applied in a variety of ways which may be appropriately spoken of as methods, but time will not allow of my describing these methods to you in detail. I have given them one and all a thorough trial, and although I cannot on the present occasion pause to give you my reasons I may tell you that in one respect or another each of the recognised methods of administering nitrous oxide and ether in succession has failed to satisfy me. In some of them there is a sudden transition from the one anæsthetic to the other, with the result that, in certain subjects, asphyxial difficulties arise and very quickly and seriously complicate the administration. In others, although the anæsthetics are gradually mixed, the channels of the inhaler through which the patient breathes are so circuitous and narrow that an unpleasant and undesirable stress is thrown upon respiration. In others, again, delay is caused by measuring out doses of ether, the patient is distressed by the rushing noise of the nitrous oxide, whilst the too familiar odour of the other anæsthetic is not wholly prevented. Or, finally, the apparatus employed cannot be thoroughly cleansed after each administration.

I have accordingly been endeavouring during the past few years to devise a method of administering "gas and ether" which would be free from the objections to which I have alluded. But before I describe this in detail I must ask your attention to a few interesting considerations in regard to the asphyxial factor in the administration of ether by means of so-called close inhalers. Perhaps the most important of the lessons taught us by Clover was that by permitting a certain degree of re-breathing during etherisation it is possible to produce a very powerful effect—an effect, indeed, which serves to render ether almost as potent and as manageable as chloroform. Re-breathing a limited supply of air has, as you are aware, a double result: it leads to a diminished ingress of oxygen—i.e., to anoxæmia—and to a retardation in the elimination of carbonic acid. Now, this result contributes very considerably to the anæsthesia. There are, in fact, by

Clover's system of etherisation, two factors brought into play which may for purposes of description be termed the ether factor and the asphyxial factor. Each is complementary to the other. The more the ether factor is used the less need will there be for the asphyxial; the more the asphyxial element is employed the less need will there be for the ether element. Now, Clover, as you may be aware, utilised the asphyxial factor very largely, as is obvious from the directions which he gave for the use of his inhalers. He paid but little attention to the patient's colour; he kept up a semi-asphyxial state; he used comparatively little ether. His inhalers, moreover, were constructed with remarkably narrow channels, but whether such a plan of construction was by accident or design I cannot say. It is highly probable that Clover, who was conspicuous for his ingenuity, was aware of the influence which these narrow bores themselves exerted upon the respiratory system of the patient and upon the phenomena of anæsthesia. So far as I am aware, however, there is no record of his views on these points. We only know that his "gas and ether" inhaler and his ether inhaler are remarkably powerful in their effects, and that, as I shall now indicate to you, these effects are to no small extent dependent upon the narrow channels through which the patient breathes.

In order to satisfy myself as to the precise influences exerted by the calibre or bore of an ether inhaler I had constructed for me by Messrs. Barth and Co. (to whom I am greatly indebted) several inhalers of different bores.[1] The inhaler I now show you (Fig. 1) has, as you see, a very wide

FIG. 1.

Large-bore ether inhaler.

bore, but it is in its other main features similar to Clover's regulating ether inhaler. Its face-piece is, however, differently fixed; it is screwed into the ether reservoir so that it cannot become unexpectedly detached; and the air-current is admitted to the ether reservoir not by rotating the latter but by moving a regulating handle. The face-piece can be fixed to the ether reservoir at any desired angle (by means of a little screw) so that the filling tube of the reservoir remains with its mouth uppermost for re-filling. Now, when this inhaler is used for administering nitrous oxide and ether in succession—for which succession it is specially intended—there is, by reason of its wide bore, a distinct alteration in the usual phenomena of a "gas and ether" administration. The principal difference is that stertor and cyanosis are lessened and that the patient passes smoothly, with little or no respiratory derangement, from the anæsthesia of nitrous oxide to that of ether. The interesting question naturally arises, How is it that this enlargement of bore eliminates to such an extent the usual stertor and cyanosis of the succession of anæsthetics now under consideration? One can understand constricted channels causing distress at the very outset of an administration and a state of hyperpnœa throughout the administration. But why the stertor and cyanosis? If we can explain the former we can, of course, readily understand the latter, for any tendency towards occlusion of the air-tract, such as that which stertor always indicates, would necessarily limit the ingress of oxygen and so cause duskiness of the features. Now, there appear to me to be two possible explanations of the stertor caused by narrow-bore inhalers, but both are, I fear, somewhat hypothetical. Little is definitely known as to the physiology of stertor, but, so far as it arises under anæsthetics, it seems to me that it may become established in one of three distinct ways. It may either be (1) vascular, (2) spasmodic, or (3) paralytic in its nature. In vascular stertor certain parts of the air-passages become swollen by reason of vascular turgescence and so narrow the air-way—as, for example, when the tongue becomes engorged in the course of asphyxia. In spasmodic stertor certain muscles within or about the upper air-tract are thrown into a state of spasm, so that the normal calibre of the tract becomes narrowed—as, for example, when the tongue is drawn backwards to meet the pharyngeal wall. In paralytic stertor certain parts of the air-way fall together—as, for example, when the flaccid tongue of a deeply anæsthetised patient lying in the dorsal posture gravitates towards the pharyngeal wall. Now, it is quite conceivable that the stertor produced by narrow-bore ether inhalers may be either of the vascular or of the spasmodic variety. Thus, when a patient is breathing through a narrow-bore inhaler there is during each *inspiration* a tendency towards a negative pressure within the upper air-tract, and as a result of this more or less continuous tendency, an increased vascularity of the soft parts—the tongue, soft palate, pharynx, and laryngeal folds—is brought about, leading to a swelling and approximation of these parts and hence to stertor. You may often observe the tongue greatly swollen during "close" etherisation or during any administration, indeed, in which the air-supply is accidentally or intentionally restricted at the nasal or oral orifices. But I also have notes of cases in which the stertor has seemed to be of the spasmodic rather than of the vascular variety. The sequence of events has apparently been: (1) diminished ingress of oxygen and egress of carbonic acid by reason of the narrow bore of the inhaler; (2) an asphyxial state of the blood; (3) general or local muscular spasm (asphyxial spasm); in the course of which (4) spasmodic stertor arises. Now, the stertor produced by small-bore inhalers may become very inconvenient, if not dangerous, in persons of certain types. For example, it would be wrong practice to anæsthetise by means of a Clover's inhaler a patient suffering from angina Ludovici. In actual practice you will find that spasmodic stertor may in certain subjects become associated with, or replaced by, vascular stertor, and *vice versâ*. One of the most anxious cases I ever had to anæsthetise taught me this fact. The patient's naturally narrow air-passages favoured the occurrence of spasmodic stertor, and after the latter had existed for a few moments all parts of the throat became so engorged by venous blood that it was impossible to pass even the tip of one's finger beyond the enormously swelled fauces. Fortunately laryngotomy and forced inflation of the lungs saved the patient. Now, these facts, although they have only an indirect bearing upon the point immediately under discussion—the narrow bores of inhalers—will show you how important it is to avoid all asphyxial methods in certain subjects and to look with suspicion upon deep and obstructive stertor whenever it may arise.

In addition to the large-bore inhaler which I now have the pleasure of introducing to your notice preventing respiratory embarrassment during the induction of gas and ether anæsthesia, it obviates the other main objection which seems to me to be attached to the plan of adapting a gas-bag to a Clover's ether inhaler—viz., the possibility of there being a slight odour of ether at the commencement of the administration. By the usual plan of procedure a measured quantity of ether is first poured into the ether reservoir, and although it is possible for an experienced anæsthetist to completely, or almost completely, prevent his patient detecting any odour of ether, any shaking or rough usage of the charged inhaler may lead to an escape of vapour when the face-piece is applied. Now, by having a fixed ether reservoir it is possible to *introduce the ether when*

[1] Messrs. Barth and Co., of 54, Poland-street, Oxford-street, W., are the sole makers of this apparatus.

the patient is partly anæsthetised by nitrous oxide. (See Fig. 2.) The administration of nitrous oxide and ether in succession is thus conducted:—1. A face-piece of appropriate size having been fixed to the ether reservoir, the latter is, in cold weather, partly immersed in hot water for a few moments; the indicating handle is placed at "O" and the plug of the filling-tube is removed. 2. A two-gallon gas-bag partly full of nitrous oxide (the amount varying with the type of subject) is fitted to the reservoir. 3. The patient is instructed to breathe freely backwards and forwards through the mouth, and air will enter and leave the lungs through the valves in the gas-bag stop-cock. 4. Nitrous oxide is now turned on, and after two or three expirations have escaped at the expiratory valve the valve action is stopped and the remaining quantity of nitrous oxide is breathed backwards and forwards.

FIG. 2.

Ether being introduced during the inhalation of nitrous oxide.

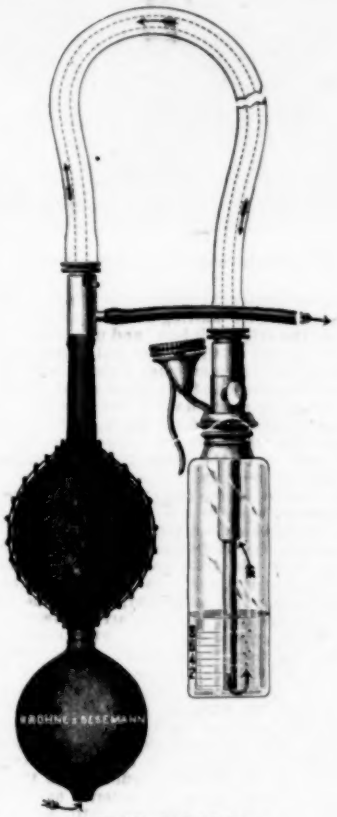
5. Immediately this has been done about from one and a half to two ounces of ether are rapidly introduced through the wide and open filling-tube and the plug is replaced (Fig. 2). It is important that the face-piece should accurately fit the face during these procedures. 6. The regulating handle is now progressively moved from "O" to "¼," "½," "¾," or "Full," these markings indicating the proportions of the current thrown over ether. 7. At the end of about one minute, or possibly earlier in some cases, a breath of air is admitted at the stop-cock of the gas-bag. 8. At the end of about one and a half minutes the gas-bag is replaced by a smaller bag (Fig. 1) and the administration is thenceforward conducted as with Clover's inhaler, the regulating handle being kept at that point which seems suitable to the particular case. You will observe that whatever posture the patient be placed in (except the dorsal with the face looking upwards, a posture which is not to be recommended for inducing anæsthesia) the ether reservoir may be so adjusted to the face-piece that the opening through which the ether is poured in can be used without removing the apparatus from the patient. A glass "window" in the plug of the filling-tube is of service as indicating the quantity of ether in the inhaler. I have used this apparatus for upwards of a year in private practice and this fact warrants me in bringing it before your notice. It is only right, however, that I should tell you that I have had practically no experience with it for administering ether *per se*, for I never employ this plan except in hospital practice, and when I have been engaged in my demonstrations here I have felt myself bound to employ the inhalers commonly in use.

I would now draw your attention to what may be termed the gas-ether-chloroform sequence, by which I mean the successive administration of these three anæsthetics to the same patient. You are all aware that when ether is "taken badly," as the expression goes, it is more or less customary to substitute chloroform, but it is not with cases of this kind that I am now concerned. I would rather direct your attention to what may be called the routine use of the gas-ether-chloroform sequence. By this system of anæsthetisation anæsthesia is induced by "gas and ether" and maintained by chloroform. Loosely speaking, we may say—"gas" for the patient, ether for the anæsthetist, and chloroform for the surgeon. Nitrous oxide is advantageous to the patient for reasons which I have already given you; ether is advantageous to the anæsthetist because of its great safety and stimulant action upon the patient's respiration and circulation; and chloroform is advantageous to the surgeon because of the comparative quietude of the patient and the comparative freedom from venous engorgement and hæmorrhage during the administration. There are, however, numerous other advantages in this system. I have often pointed out to you that the principal risk of chloroform is the risk which is incurred during the second stage of anæsthetisation—a stage which in certain subjects is characterised by excitement, rigidity, and struggling. Now by the sequence under consideration this risk is wholly eliminated, for the struggling stage is passed over whilst the patient is under nitrous oxide and ether, with which anæsthetics there is, practically speaking, no such risk. It is therefore clear that by the nitrous oxide-ether-chloroform sequence we are able to obtain the advantages of chloroform without at the same time experiencing one of its chief disadvantages. But there is something more. One of the chief objections to ether as a routine anæsthetic is that after its administration, and particularly after its prolonged administration, certain after-effects are not uncommon. I refer more particularly to the taste and smell of ether experienced by the patient, to nausea and vomiting, and to bronchial and pulmonary sequelæ. Now, by the nitrous oxide-ether-chloroform sequence these disadvantages of ether are largely or wholly eliminated; for the quantity of ether vapour inhaled, although sufficient to impart to the administration characters such as it could never otherwise acquire, is insufficient to prejudicially affect the recovery-period. The return to normal consciousness, indeed, is altogether more satisfactory than after ether alone. Possibly the absence of that wear and tear of nervous machinery which must attend the protracted inhalation of ether may help to account to some extent for these happy results; or the greater economy of blood which marks the use of chloroform may help to explain them. But of this I am convinced, that there is no plan at present known of inducing and maintaining surgical anæsthesia which has so many advantages and so few disadvantages as the one which I now describe. In applying this system of anæsthetisation you must, however, bear in mind certain points; for if the sequence be attempted without observing certain cardinal principles you may easily find yourself face to face with alarming symptoms. In the first place, you should, for reasons just given, never change from ether to chloroform whilst a patient is struggling. Several deaths have thus occurred. In the next place, you must be careful never to effect the change unless there is at the moment of such change some evidence that the patient is not profoundly anæsthetised by ether. Thus it is a good plan in employing the sequence to administer ether till the corneal reflex has just disappeared, to remove the ether inhaler for a few breaths of air, to allow a slight cough to occur in order to free the larynx of any mucus that may have entered it, to watch for the first indication of returning corneal reflex, and then to begin the chloroform inhalation. It is particularly important in the case of abdominal operations that a cough should be allowed before the chloroform is begun, for if the chloroformisation be started whilst the larynx contains mucus considerable respiratory difficulty may arise. It is in this way that high-pitched laryngeal stridor, cyanosis, exaggerated diaphragmatic action, and abdominal rigidity may often come about. It is also important in abdominal cases to effect the change from ether to chloroform before the operation is begun, for as this change should only be made during a comparatively light anæsthesia, and as this anæsthesia may be associated with rigidity or movement, much inconvenience to the surgeon may be caused by changing when the operation is in progress. In the

next place, as regards the depth of chloroform anæsthesia which should be maintained, I find that when once patients have been placed well under ether and have then been allowed to clear the larynx, it is not necessary to subsequently maintain a very profound chloroform narcosis—in other words, by educating the tactile sensibility of one's finger it is generally possible to allow a very slight trace of lid reflex save perhaps in abdominal cases. If, however, the change from ether to chloroform be effected without the larynx having cleared itself the mucus present in this organ may persistently tend to excite local and even distant spasmodic states, with the result that, in his endeavours to suppress the inconvenient phenomena the anæsthetist may readily administer a dangerously large dose of chloroform. The presence of viscid mucus within the larynx rarely if ever leads to occlusion of the air-tract during the administration of ether, probably because the force of the respiratory current under this anæsthetic is sufficiently great to keep the fluid in a state of active movement. But I have notes of two cases which occurred some time ago, before I had become aware of the importance of proceeding as I have described, in which during a deep chloroform anæsthesia, whilst the breathing was somewhat shallow, the presence of ether-mucus within the larynx apparently acted as the "last straw" and arrested breathing. Simple chest compression quickly dislodged the mucus and restored respiration.

The nitrous oxide-ether-chloroform sequence is particularly appropriate in the surgery of the mouth, throat, and nose.

FIG. 3.

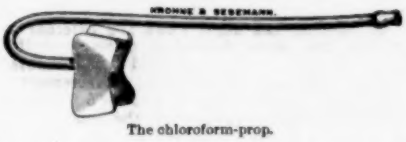


Modified Junker's inhaler.

As a general rule it is advisable for these operations to place the patient well under ether, to insert the gag and any necessary appliance for maintaining anæsthesia, and then to allow the slight recovery to which I have alluded. From this moment onwards anæsthesia is kept up by means of a Junker's inhaler. Messrs. Krohne and Sesemann have recently constructed for me the modification which I now show you (Fig. 3). In addition to its being so made that no mistake can occur in adjusting the wrong indiarubber tubes upon the mounts of the bottle, you will observe that the apparatus is provided with a metal stop-cock which when turned converts the chloroform receptacle into a stopper-tight bottle which can be packed away in a bag without removing the chloroform. There are also other little improvements which hardly deserve special notice.

The last development in anæsthetisation to which I shall refer is a plan of maintaining chloroform anæsthesia during certain nasal and oral operations. It is customary, whenever the surgeon desires to keep the mouth of the patient more or less widely open, to insert a Mason's gag between the teeth or to employ some similar plan. Now this gag, as well as most others of its type, has the effect of stretching the lips and distorting the anterior nasal orifice of that side on which the gag is inserted. The inconvenience to the surgeon thus occasioned is particularly felt in antral and nasal operations, and it is for such operations that I have devised the little appliance which I now show you. It is made by Messrs. Krohne and Sesemann and may be termed a "chloroform-prop" (Fig. 4). It consists of a solid wedge-shaped metal

FIG. 4.



The chloroform-prop.

prop which can be inserted in wedge fashion between the molar teeth. It has side flanges to prevent lateral displacement, and the parts of the prop which come against the teeth are made of lead to allow of the prop being gripped when in position. A bent metal tube for the transmission of chloroform vapour from a Junker's inhaler is fixed to the prop, in the inner and back portion of which may be seen the orifice through which the chloroform vapour is pumped into the fauces. Two or three sizes of the chloroform-prop are needed. When in position it will be found that the lips remain flaccid although the teeth are separated. The little appliance is of great use in maintaining anæsthesia during throat and nose operations upon patients in the sitting posture. Provided that anæsthesia be induced by ether, that all respiratory embarrassment be avoided, and that too profound a narcosis be not maintained, chloroform may, I believe, be safely administered to patients thus placed.

CASES OF INJURY TO THE EPIPHYSEAL LINE.

BY RUPERT BUCKNALL, M.D., M.S. LOND., F.R.C.S ENG.

THE following cases of injury to the epiphyseal line have lately been seen at University College Hospital. The case operated upon was under the care of Mr. Horsley.

CASE 1. *Separation of the lower epiphysis of the humerus without displacement.*—A boy, aged three years, fell from a bed, injuring the left elbow. When seen several hours later the elbow was held flexed at a right angle and all attempts to move it caused pain. There was a considerable amount of puffy swelling about the lower end of the humerus and a slight groove could be made out above the capitellum posteriorly on careful examination of the bony surfaces. Measurement and comparison of the bony points with those about the opposite elbow showed no dissimilarity; but on attempting lateral movement of the forearm the lower extremity of the left humerus could be felt to "give" slightly on the shaft, and on internal movement the groove felt above the capitellum grew wider. A skiagram showed that there was no displacement of the epiphysis, and it could not be said that the epiphyseal line was broader than

normal. The limb was put up flexed on a moulded gutta-percha splint for three weeks, passive movement being begun on the tenth day and continued daily. At the end of a month no deformity could be detected and the movements were perfect.

CASE 2. *Separation of the epicondylo-capitellar epiphysis of the humerus.*—A boy, aged seven and a half years, fell from a tree on to the outstretched right hand six months before admission. The elbow was thought to be dislocated at the time and liniments were applied for some time, but the deformity persisted and limitation of movement increased. The arm was not "set" after the accident nor were splints applied. On admission the condition was as follows. The contour of the outer border of the arm was altered by a projection opposite the external condyle, as though the radius were dislocated outwards and upwards. The carrying angle was unaltered. The forearm could be flexed to an angle of 83 degrees with the humerus and extended through 50 degrees to an angle of 135 degrees. Pronation and supination were as extensive as similar movements of the sound arm. Attempts to flex or extend beyond the above limits caused pain. On examining the bones the inner portion of the humerus and the ulna were found to be normal and bearing their normal relations. The head of the radius rotated in the lesser sigmoid cavity freely and felt normal; above it articulated with an irregular mass of bone made up of the external condyle and capitellum with surrounding callus. The mass was displaced directly outwards, as is well shown in the skiagram (Fig. 1), not forwards or backwards. On running the finger down the external supra-condylar line the mass formed a distinct shelf projecting half an inch. The mass could not be moved on the humerus. Calipers showed the measurement from condyle to condyle on the right side to be 5·1 centimetres, as compared with 4·2 centimetres on the sound side. On exposing the mass through a curved incision it was found to be loose; it was therefore removed and the head of the radius being normal a groove was cut for it in the lower end of the humerus to allow of free movement. A splint was applied for two days, and the stitches being removed on th.

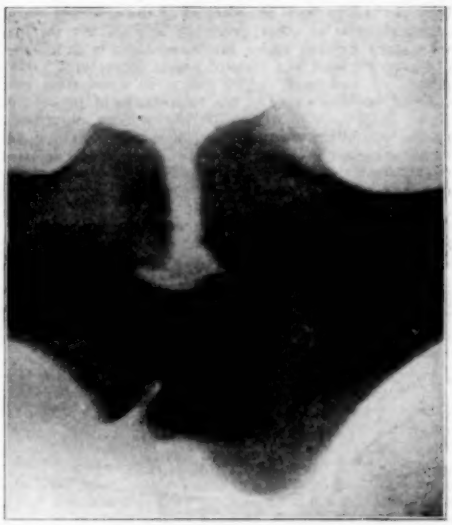
FIG. 1.

Illustration showing condylo-capitellar epiphysis in Case 2.

eighth day passive movements were begun and the patient was encouraged to move the arm. Three weeks later full flexion and extension were performed under gas, as there was limitation of these movements. Six weeks later the forearm could be extended to 160 degrees and flexed to an angle of 70 degrees with the humerus. Beyond this there was resistance but no longer pain. Pronation and supination were perfect and the carrying angle was slightly greater than normal. Three months after the operation the arm could be extended to 170 degrees and flexed to 70 degrees, all movements being freely performed and causing no pain. Pronation and supination were perfect and the patient used the arm in preference to the left one for all ordinary movements.

CASE 3. *Ununited separation of the epicondylo-capitellar epiphysis.*—A man, aged 56 years, gave the history that he fell on his left hand when 10 years old, injuring the elbow; this was "set" in splints, and it remained very stiff for some time afterwards. Both bones of the forearm were displaced a little outwards and the "carrying angle" was 20 degrees larger than normal, as measured in the opposite arm. The head of the radius could be easily felt, and above it, over the situation of the external condyle and capitellum, there was an irregular mass of bone which could be felt to move on full flexion or extension of the elbow. Both these movements were slightly restricted, but pronation and supination could be fully carried out. Behind the internal condyle there was a small mass of callus, fixed to the

FIG. 2.



Old epicondylo-capitellar separation (Case 3).

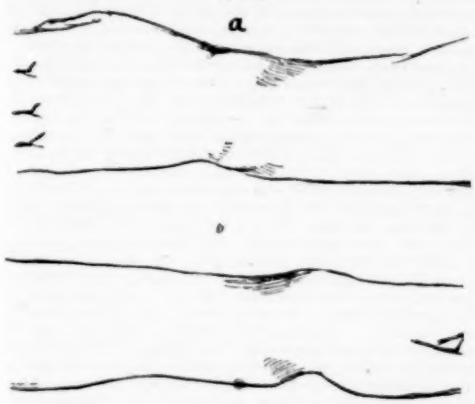
process, and evidently involving the ulnar nerve. The patient began to notice wasting of the hand and anæsthesia 20 years after the original injury, and now there was typical paralysis and wasting of the thenar and hypothenar muscles and the flexor and extensor carpi ulnaris, with anæsthesia in the area of distribution of the ulnar nerve in the fingers and hand as high up as the level of the pisiform bone. The nails of the fourth and fifth digits were longitudinally fluted. Operative treatment was refused, but the skiagram showed the relation of the bones and the position of the ununited fragment (Fig 2).

CASE 4. *Partial dislocation outwards of both forearm bones at the elbow; separation of the epiphysis of the internal condyle during reduction.*—A youth, aged 15 years, fell from a bicycle, striking the elbow against the kerbstone. When seen an hour later the elbow was swollen and flexed at an angle of 110 degrees, with the forearm pronated. The internal condyle was very prominent, and it was evident on inspection that the ulna was displaced outwards, but the dislocated radius gave rise to no marked deformity. The length of the line from the acromion to the olecranon was the same on either side. On examining the bones the deformity was at once evident, the sigmoid cavity of the ulna articulating with the capitellum, and the radius lying outside the external condyle, displaced also a great deal forwards. On the inner side the finger could easily explore all the trochlear surface of the humerus, and the trochlear notch could be readily defined. On the outer side the head of the radius lay to the anterior and outer side of the external condyle; it could be entirely explored and was felt to rotate on supinating the forearm. The elbow permitted of extension to 130 degrees and flexion to 100 degrees, and the forearm, which lay pronated, could be placed in the midway position between pronation and supination. Chloroform was given, and the dislocation was reduced easily by making extension

with leverage across the knee; but after the bones were replaced it was found that the epiphysis of the internal condyle of the humerus had been torn off. The separated fragment lay with its inner end or tip pointing downwards, just over the line of the joint, below and external to its normal position. On supination and extension it was drawn still further downwards and on pronation and flexion of the elbow, wrist, and fingers it could be replaced over its normal situation, but it always lay rotated with the tip pointing downwards. The whole limb was therefore put up on a splint in this flexed position and was kept at rest for ten days, at the end of which period the splint was removed and passive movement was begun and continued daily, the arm being kept in a sling for ten days more. There was a great deal of swelling and œdema, with blistering on the day after the accident. This slowly subsided and on the fourteenth day the elbow could be flexed to an angle of 70 degrees and extended to 170 degrees and pronation was perfect. Supination was slightly limited and the internal condylar epiphysis could not be distinctly made out owing to the callus forming round it. Two months later the movements of the elbow were quite perfect as to freedom and extent. The separated epicondyle could be felt as a mass firmly fixed to the humerus a quarter of an inch below its normal situation. The ulnar nerve was not tender and sensation in its area of distribution was normal.

CASE 5. *Separation of the lower epiphysis of the radius.*—A boy, aged 11 years, fell from a height of six feet on to his outstretched right hand, the thenar eminence striking on a step. There was obvious deformity at the wrist when seen two hours after the accident. The hand and the lower end of the radius were displaced backwards and outwards, forming a prominence on the dorsum of the wrist with a definite upper border to it extending across the posterior and outer surfaces of the forearm just above the wrist. The lower end of the upper fragment projected as a rather sharp ridge on the anterior surface, especially well felt about the position of the radial pulse, the artery arching over it (Fig. 3, *a* and *b*). There was no obvious rotation of the lower

FIG. 3.



Showing appearance of wrist in Case 5. *a*, From above. *b*, From outer side.

fragment either backwards or outwards. During reduction, which was easily accomplished, typical soft crepitus was felt. There was no tendency to re-displacement and a gutta-percha gauntlet was moulded on. Daily passive movement was begun at the end of the first week and kept up for 3½ weeks, at the end of which time the splint was discarded as the epiphysis had firmly united and the movements of the wrist and fingers were perfect. Two months after the accident no deformity could be made out beyond slight thickening about the epiphyseal line and the movements of the wrist were perfect. Fig. 4 shows the condition of the bones after reduction.

CASE 6. *Separation of epicondylo-capitellar portion of epiphysis of the humerus.*—A boy, aged six years, fell whilst spinning round at play and struck the left forearm and elbow against the pavement. When he was seen six hours later there was some swelling about the left elbow-joint which was carried at a right angle with the forearm semi-prone. On tracing down the external supracondylar line of the humerus an abrupt prominence could be felt about half an inch above the joint line and it was found that the external condyle and capitellum were displaced backwards and outwards about a quarter of an inch and also a little upwards; the fragment so separated had a sharp upper border posteriorly easily felt on running the finger down the smooth posterior surface of the humerus above the condyle. The measurement from the internal to the external condyle with calipers was nearly a quarter of an inch more on the affected side. The internal condyle and supracondylar line presented no deformity and the olecranon bore its normal relation to the condyle. The head of the radius could be easily felt lying below

FIG. 4.

Skiagram showing condition of bones after reduction in Case 5.

the displaced capitellum, the groove between them being broader than normal. Movements of the elbow caused pain, but under an anæsthetic they were free, though full flexion was limited before reduction. The fragment evidently consisted of the outer half of the lower end of the humerus, displaced backwards, outwards, and upwards. By direct pressure with the thumb it could be restored to its proper position, a soft "click" being felt during reduction. An attempt was made to put up the arm on a straight anterior splint in the extended position with a view to preserving the "carrying" angle at the elbow, but there was a tendency for the deformity to recur in this position. The elbow was therefore flexed as recommended by Hutchinson, and the fragment lay securely in an excellent position when the hand was placed over the opposite clavicle. Two strips of strapping were therefore applied exactly as in Sayer's method for treating fracture of the clavicle, a pad of wool being placed over the elbow beneath the strapping. The limb was found to be quite comfortable on the next day and needed no further attention till the tenth day, when the outer strip of strapping was removed and gentle passive movement of the elbow was practised in all directions. This was repeated daily for 12 days, the fragment being held in place by the fingers during manipulation and the strapping being reapplied. Full range of movement was soon reached without causing pain and after the first day the patient did not cry. At the end of three weeks from the date of injury the arm was placed in a sling and the mother of the boy was enjoined to move it twice daily to the full. Union appeared to be quite firm in three weeks from the date of injury and first treatment. Eight months later the limb was examined. There was full and free range of movement in every direction. There was some prominence about the line of fracture due to callus, but no gross deformity. The groove between the upper end of the radius and capitellum was broader than normal, as though there were some want of growth of the outer half of the lower end of the humerus, but the "carrying" angle of the elbow was exactly similar to that on the opposite side.

The first case described, in which there was no displacement of the epiphysis, is a good example of the rather equivocal signs which separation of an epiphysis may present. It is important, however, to recognise the

condition and to fix the fragments for a time, as otherwise undue mobility may lead to permanent want of union. Such a result is very rare without displacement, and a more common sequel is the formation of an excessive amount of callus from the same cause, leading either to destruction of the epiphyseal line or to interference with its blood-supply. Both these pathological processes may lead to a want of growth on the part of the bone affected, and if such want of growth occurs in one of two parallel bones, or in one half of a broad epiphysis, angular distorsion of the joint may result, as is shown in Case 3.

The difficulty in recognising the exact form of injury present in epiphyseal separations depends on the small size of the parts in children and the way in which the bony processes are obscured by the subcutaneous fat. In order to come to a correct conclusion and to effect efficient reduction of any deformity present an anæsthetic is always necessary and careful measurement must be made of the bony points, comparing them with those on the sound side. It is often difficult to fix accurately the fragments after reduction for the same reasons, and moulded splints of poroplastic or gutta-percha will be found far more serviceable than those of wood or metal and very easy to apply.

The proximity of the injury to a joint always leads to a rapid effusion into the synovial cavity, often consisting of blood. An important point in treatment, therefore is the early passive movement, which should be carried out in order to prevent the formation of adhesions with permanent limitation of movement in consequence. This must be begun before the fracture is sufficiently firmly united for splints to be discarded, and about the seventh or tenth day the limb should be taken down off the splint, and the fractured region being kept fixed by grasping the fragments with the hands an assistant should proceed to move the joint. Very slight range of movement is all that is necessary at first, but all the normal movements of the joint must be commenced; thus at the elbow or wrist pronation and supination must be practised as well as flexion and extension. A similar passive movement must be carried out each day, and each day the range of movement may be increased, and even at the end of three weeks or a month, when the splint is discarded, it is as well to continue such treatment for another period of three weeks, especially if any pain or stiffness persist.

Case 2 shows deformity and pain resulting from improper treatment of a fairly common injury about the elbow in children. One of two lines of treatment may be adopted in such a condition. If seen sufficiently early the separated fragment may be wired or pegged in its proper position, a proceeding which may lead, not only to union, but to restoration of growth about the epiphyseal line; but if seen late, as here recorded, no such new growth could be expected and the obstruction to movement and the pain caused by the callus are best overcome by removal of the fragment. The portion of bone removed in this case was much distorted by the addition of callus, and no trace of the epiphyseal line remained, so that no new growth could have subsequently taken place

The fourth case is an example of a fairly common complex injury, though the epiphysis of the internal condyle is more often torn off at the time of dislocation than, as here reported, during reduction. This injury has on several occasions been overlooked, and failure to recognise it has led to ulnar paralysis from want of immobilisation and excessive formation of callus, the latter pressing on the nerve. Treatment by immediate wiring or fixation of the fragment in position by strapping has been recommended. The latter was impossible in the present case, as no hold could be gained on the fragment, nor would the subsequent swelling that ensued lead to an unqualified recommendation of this method.

Immediate wiring is certainly the ideal treatment if asepsis can be assured, but infection, however slight the risk may be, leads to such serious results in these cases that any line of treatment evading the possibility of such an accident is certainly worthy of consideration.

Case 5 shows a simple separation with displacement of the lower epiphysis of the radius and the usual accompanying deformity which differs slightly from that seen in Colles's fracture. Considerable force is as a rule needed to tear off this epiphysis, and in consequence many of the cases recorded have been compound separations, the lower end of the diaphysis tearing through the skin and often injuring the radial artery.

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NOTE ON THE TREATMENT OF COLLAPSE OF THE ALA NASI.

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COLLAPSE of the ala nasi is a condition well known to those interested in nasal surgery. It consists in the falling of the external part of the lower lateral cartilage inwards during inspiration, so that it comes in contact with the septum and prevents the patient from drawing air through the nasal chambers on the affected side. Normally the lower lateral cartilage is doubled on itself, U-like, the inner part being in contact with the lower end of the septum, whilst the external forms a part of the outer wall of the vestibule. There is an amount of stiffness in the cartilage which keeps the anterior nares patent and the resiliency of the cartilage where the bend occurs is sufficient, after the two portions of the cartilage have been pressed together, to restore the patency of the anterior nares. In not a few individuals this resiliency is lost, and during inspiration the outer wall of the vestibule comes into contact with the septum. In some of these cases there co-exists a dislocation of the anterior end of the septum from the columella, and this, when present, increases the obstruction to free inspiration.

Although this collapse of the ala may be called a trifling affection it is astonishing how much annoyance it gives to the subject of it. It may easily be overlooked by the surgeon unless he is cognisant that such a condition may occur. For when the speculum is introduced and the blades are separated the collapsed ala at the same time is of course carried away from the septum by the external blade of the speculum and nothing whatever may be discovered on looking into the nasal cavities to account for the patient's trouble. The surgeon should suspect this condition, however, if when nothing abnormal is seen in the nasal chambers the patient remarks that he breathes quite comfortably with the speculum *in situ*. If now the speculum is removed and the vestibule is examined by tilting up the tip of the nose with the finger it will be seen that the outer wall comes in contact with the inner when the patient inspires.

The condition is an exceedingly troublesome one to treat. I think I have seen some good done by face massage—that is, massage of the dilator muscles of the ala—but not much. When there is dislocation of the anterior end of the septum shaving off the projecting portion will also help matters, though it will not completely rid the patient of his trouble. I have used the various rings, semi-circles, celluloid expanders, short pieces of drainage-tube, &c., that have been from time to time recommended for the condition, and although they may keep the passage expanded whilst *in situ* and for the time give relief they soon become irksome and irritable and are abandoned. In one case under my care I had made a number of similar contrivances of various material carefully moulded and shaped to fit the part accurately. But this patient, like the rest, finally threw them aside and resorted again to his own plan of obtaining relief—namely, rolling up a piece of moist cotton-wool into a ball of the size of a small pea which he poked up the vestibule into the little pit just within the limen at the angle of bending of the lower lateral cartilage. This tiny ball of cotton-wool was just sufficient to prevent the ala from collapsing and it gave me the clue to the method of curing the condition. It struck me that if in place of the cotton-wool ball I could transplant there a ball of the patient's own tissue I should obtain the same end, and this I succeeded in doing in the following way. A strip of mucous membrane as thick as possible and about three-sixteenths of an inch in width was dissected up from the inner wall of the vestibule, leaving the base attached above. The surface of the little pit at the angle of bending of the lower lateral cartilage was next made raw by removing the epithelial layer. The epithelial lining was also removed from the little strip of tissue; the tissue itself was rolled up bandage-wise and then secured to the rawed surface of the pit by a stitch of the finest fishing-gut passed by a needle through the septum into the opposite nostril and back again. When thus fixed the little roll of tissue pressed out the external portion of the lateral cartilage just enough to prevent the ala during inspiration from falling into contact with the septum. It cannot be seen and produces no-

deformity, and so far as my experience has gone it is a permanent cure for this troublesome condition. The surface left by rolling up the strip of mucous membrane readily granulates over and causes no inconvenience. Tension in the strip of tissue must of course be avoided and care must be taken that the surfaces of the roll are properly and completely bared and their vascular supply not interfered with by drawing the stitch too tight. The operation is best done under general anæsthesia, as unless the tissues are manipulated delicately the blood-supply of the little strip will be injured and necrosis will take place.

Harley-street, W.

THE TREATMENT OF SCIATICA, ARTHRITIS DEFORMANS, AND SCLERODERMA BY SUPERHEATED DRY AIR (THE TALLERMAN SYSTEM).

A REPORT FROM THE LANDESBAD AT BADEN-BADEN.

BY DR. FR. NEUMANN.

IT is seldom that a specific method of treatment withstands the test of years and continues to fulfil its original promise so well as the Tallerman system for the application of superheated dry air. The apparatus itself has been so frequently described that I may confine myself to a brief indication of its essential features, though there are, on the other hand, thousands of physicians who have not yet seen it. Two different forms are used: (1) for the pelvis; and (2) for the extremities. The apparatus can be heated by electricity or by gas or even by oil, and the temperature in the interior is brought up to 300° F. That such temperatures are actually reached in the upper part of the cylinder is proved by the reading of the thermometer affixed to the top; but whether temperatures so high as the thermometer indicates are maintained inside in an equal degree—whether a limb lying in the apparatus is surrounded by a uniformly heated atmosphere so that we can speak of the *continuous* action of superheated air when once the maximum is reached—that question has hitherto been a matter of assumption. I have endeavoured to solve it in a simple manner. When any portion of the body is inserted in the cylinder the floor on which it rests is protected by a cushion of asbestos resembling a thick layer of felt. Above this and around the limb a covering of woven asbestos, which is like lint in appearance, is disposed. The patient must be completely undressed and comfortably wrapped up in loose cotton wraps and blankets on account of the profuse perspiration which usually occurs during and after the sitting and also to ease the respiration and the action of the heart. Obviously the limb is not exposed to the direct action of the hot air, and for this reason—that if it were left uncovered the *radiant* heat from the metal falling on to the skin must have either a scorching or at least a very irritating and painful effect. The loosely clothed portion of the body inside the apparatus experiences in general no disagreeable sensations from the heat. Where the covering comes into direct contact with the skin the feeling is only one of moderate warmth, but where between the folds hot air has free access to the cuticular nerves one has the sensation of a very intense but comforting heat. The dry air enveloping the limb must obviously draw from it a large amount of moisture through the difference of temperature and saturation; and it follows from elementary physical laws that as large quantities of moisture are withdrawn more and more blood is forced to flow from the deep-seated tissues, where it is cooler, to the heated surface and into the dilated vessels of the skin. For a closer examination of these processes, however, further investigation is needed.

It is a fact that the coverings in which a limb rests when under treatment become moist and that occasionally in a fold of asbestos shut off from evaporation a small quantity of water—unquestionably the product of condensation—may collect; and yet such moisture never becomes superheated, for otherwise scalding would occur, and this we have never observed at the Landesbad in upwards of 2000 applications. Nor is a single case of scalding noted in the whole of the English literature which I have perused. It is a matter for regret that in dealing with such an exceedingly beneficent method of treatment as this all the internal processes should not yet be fully known. Certain it is, however, that the withdrawal of moisture from the limbs must be accompanied by considerable changes in temperature, and further that it is impossible to speak of a constant dry heat in view of the fluctuations in temperature and moisture. In order to obtain at least some authoritative data for commencing the investigation of these points I had a maximum thermometer constructed which can be placed between the asbestos coverings during the sitting and read afterwards. The following table gives the temperatures noted:—

In the apparatus. Degrees Fahrenheit.	Maximum thermometer. Degrees Fahrenheit.	Difference. Degrees Celsius.
225	179·6	25·0
230	195·8	19·0
220	194·0	10·5
260	230·0	10·8
238	212·0	14·0
220	190·0	16·0
250	230·0	11·2

This table shows that inside the cylinder in the course of an hour's use considerable variations in temperature occur, which certainly cannot be without influence on the contents of the superficial blood-vessels and on the amount of evaporation. Immediately after leaving the apparatus the limb is injected and of a uniform red, but has not the slightest appearance of cyanosis or stasis. During treatment the whole body falls into a pleasant perspiration; the pulse is accelerated by some 10 to 20 beats in the minute, but is not noticeably full or dicrotic, still less small and irregular. Cardiac or cerebral sensations of a disagreeable character only occur in highly nervous patients, in whom the mere apparatus—or the "oven" as people often call it—of itself excites alarm. With increasing experience and observation I have been able, as others have done, to apply the treatment without anxiety to patients suffering from arteric-sclerosis, myocarditis, and moderate valvular disease.

Here, as elsewhere, observations of the temperature taken in the mouth or axilla have shown that there is never an important increase in the body heat, the rise scarcely reaching ½° Celsius as a rule. This conclusion is confirmed by the fact that treatment never induces albuminuria, but rather that it diminishes existing albuminuria from organic kidney disease.

English writers represent the curative action of the treatment in a light which we cannot altogether endorse. My own belief is that super-heated dry air will come much more into general use as a therapeutic agent and will obtain permanent recognition if attention is directed strictly to the results derived from a wide field of observation. Among the English contributions to the subject we find the statement repeatedly made that the local action in a limb or joint on one side of the body benefits the corresponding part on the other side in a striking manner. I willingly admit that the general stimulation of the circulation and of perspiratory excretion may produce general relaxation of the tissues and relief from pain, but our observations afford no evidence that a curative effect is actually transferred from one side to the other by a sort of sympathetic action—whatever that may mean. Equally doubtful, in my opinion, is the assertion that in arthritis deformans, for instance, or in neuralgia such as sciatica, a striking and immediate remission of pain sets in. Nor is the reduction of swollen joints effected so rapidly as is stated in many reports. On the other hand, it is unquestionable that in many cases the curative action continues after treatment. The improved circulation and marked stimulation of the lymphatic system lead in many cases to vigorous nutrition of the parts affected; and so it happens that patients are discharged, going somewhat dejectedly away on crutches and sticks apparently unimproved and uncured, of whom we subsequently hear that improvement, cure, and ability to return to work have been gradually established. It is also much truer to nature that the healing process should follow this course than that of suggestive and miraculous change. Further, the gradual improvement in the condition of atrophied muscular tissues, the increase

in power and bulk of wasted limbs, can only proceed by degrees and by means of improved nutrition. We notice this strengthening of the muscular system after the application of the Tallerman treatment even in cases in which, for the sake of experiment and observation, we have given up the simultaneous use of the Zander exercises. Whether we shall succeed, as some enthusiasts believe, in completely suppressing arthritis deformans, for instance, or in abolishing it altogether out of existence will appear highly doubtful and unlikely to every physician familiar with this terrible disease.

Observation has shown that this treatment, energetic as it seems to be, produces no ill effects either on the local seat of mischief or on the whole system. In particular we have never been able to discover that it causes any wasting or has a lowering effect on the general strength, although it is so powerful and compressed into so short a space of time. On the contrary, in precisely the most successful and at the same time the severest cases the general health and appearance have notably improved, through the relief from pain, as we must suppose, and the powerful stimulation of the circulation.

In this general survey my object has been to show how the hot air acts, and I believe that I have correctly defined the scope of its action. Just because the Tallerman treatment is a blessing to so many invalids I have impartially depicted light and shade to the best of my knowledge. With regard to the application of the treatment to the cure of particular classes of disease much has been written already in England, America, France, and Germany. In Germany the Baden Government, at the instance of the Minister of Medicine, arranged with Mr. Tallerman in the year 1898 for the installation of his apparatus for the public use at the Landesbad, the great State institution for gout, rheumatism, neuritis, and heart disease, and also at the Friederichsbad, the well-known thermo-hydropathic establishment for private patients. As senior physician to the Landesbad I have myself had abundant opportunities of employing the treatment. In order to appreciate the results properly it should be noted that the majority of the patients at the Landesbad are recruited from the necessitous classes—that is to say, we have agricultural labourers, factory work-people, public servants much exposed to the weather and to great physical exertion, such as railway and custom-house employés, together with the women belonging to the same class of life. It is no wonder, therefore, that abundant material for the hot-air treatment should be forthcoming. We have a large number of the severest cases of so-called sciatica (190 cases in 1900), in which the form of illness and its incapacitating effects vary according to the seat of the disease and the acuteness of the attack. True gout is comparatively rare among our patients. On the other hand, affections resulting from acute arthritic rheumatism and—whether allied to them or independent—the various forms of chronic articular rheumatism and the so-called arthritis deformans, into the pathology of which I will not enter here, are all very common (about 300 cases).

It is precisely in dealing with the foregoing maladies that the hot-air treatment is most valuable. The position of physician to an establishment like the Landesbad no doubt gives one the opportunity of gaining vast experience in a particular direction; but, on the other hand, it is one's duty to keep testing again and again the value of the old-established means—hot springs, hot air, and vapour baths—and to apply the combination of these with fango and exercise on parallel lines to the same morbid conditions. To enter fully into the details of this procedure would carry me too far afield, but this much I can say—that both at the Landesbad and in private practice the patients submitted to the Tallerman treatment have been the bad and very bad cases only.

Speaking generally, my indications for the treatment correspond with those set forth more particularly in the English literature. There the morbid conditions dealt with are chiefly rheumatic neuritis, chorea, gout, chronic rheumatism, rheumatic arthritis, stiff and swollen joints, sprains and ruptures of joints, fractures, inflamed flat-foot, &c. In England, on the other hand, they have also treated eczema, of which I have had no experience, whilst for my part I have had the opportunity of treating subacute nephritis, three cases of scleroderma, and one of myxœdema. In the course of the year we have applied the treatment to cases of sciatica and lumbago (70 cases), arthritis deformans (35 cases), chronic arthritic rheumatism, badly-mended fractures with interruption of the circulation, severe sprains of the pelvis and spine, painful cicatrices and contractions after gunshot wounds, three cases of scleroderma, one of myxœdema, and also cases of inflamed flat-foot. No result whatever was obtained in three cases of sciatica, in one of sciatica and lumbago with special involvement of the ileo-inguinal nerve, and in one of ankylosis of the knee-joint following operative removal of rice-seed bodies. Unequal results were obtained in two cases of arthritis deformans, the hands being improved as regards swelling and mobility while the knees remained unaffected and very painful. Unimproved also were two cases of apparently old fracture of the neck of the femur with severe concussion of the pelvis, and hardly any success was obtained in one case of inflamed flat-foot and one of scleroderma, in which only the hands were relieved. All the remaining cases were either substantially improved or completely cured. In many cases the improvement is of such a character as to make a truly wonderful impression upon the patients and their friends, and it may be said of them that they would otherwise remain absolutely incurable. I append a few such cases.[1]

SCIATICA.

CASE 5.—The patient was a man who had to travel a great deal. The cause of his illness was repeated chills; otherwise he was quite healthy. There were bilateral sciatica, extreme pain, and insomnia; the slightest movement—walking, sitting, or standing—was impossible; the gluteal nerves were particularly affected. He was unable to leave his bed for five months. All previous treatment was useless. Pelvic Tallerman treatment, alternating with natural baths, were given. Complete cure resulted in two months. The patient, who would otherwise have had to give up his livelihood, now carries on the whole of his exacting business as before. The cure is now of seven months' standing.

CASE 222.—The patient was a woman who had overstrained herself while sick-nursing and was supposed to be suffering from inflammation of the right hip. She had been under treatment in the hospital for three months without any improvement worth mentioning. On examination she was found to have gluteal sciatica. The hip was freely moveable; there was total inability to walk. She had great pain even in bed. Pelvic Tallerman treatment was given; there was complete cure in four weeks. There has been no return.

CASE 92.—The patient was a man who had severe sciatica following fracture of the neck of the femur. He had violent pain, atrophy of the muscles of the thigh, and was unable to walk for months. Pelvic Tallerman baths were given; he walks freely and without pain.

CASE 107.—The patient was a woman suffering from bilateral sciatica; she was sent to me after being bedridden for six months for osteo-malacia. She was deprived of almost all power of movement in the pelvis and legs; she tried to walk with a supporting frame, such as little children use. Double sciatica was diagnosed. Pelvic Tallerman treatment was given; in six weeks the patient left the institution walking easily with a stick, but had a return after getting a chill in the kitchen.

CASE 116.—This patient had a stiff knee; the thigh was flexed, there was pain in the left sacro-iliac joint and wasting of the left thigh; the patient had to be carried and could only walk with a stick by the greatest effort. Complete cure resulted and she now walks easily.

CASE 129.—The patient had bilateral sciatica; there were pain in the sacrum and sacro-iliac joint and shooting pains in the ileo-inguinal regions; the patient walked bent double and there was wasting of the left thigh. Result: the patient is completely free from pain and walks upright.

CASE 292.—The patient had ankylosis of the spine, lumbago, and sciatica, under the guise of coxitis; there was inflammation of the shoulder-joint and the arm could scarcely be raised to the horizontal position. Result: there is free movement of the hips, the spine can be flexed and turned, the arms can be raised high without pain, and the patient walks well.

CASE 474.—The patient had left sciatica; there were wasting of the gluteal muscles and pain in the gluteal nerves; the sacrum and sacro-iliac joint were painful; the right shoulder moved with difficulty. Complete cure resulted.

[1] Some case-notes from private practice are included; the rest are from the Landesbad.

CASE 643.—The patient had inflammation of the left hip-joint. On examination a diagnosis was made of gluteal sciatica only; the patient had been treated with weight and pulley for six months and was sent to us by an eminent surgeon as probably suffering from sciatica; a few steps only could be taken on two crutches and with great pain. Pelvic Tallerman treatment was given and the patient walks easily with one or two sticks.

CASE 710.—This patient arrived quite bent double and was scarcely able to walk. There was left sciatica, the gluteal nerves were particularly affected, and there was atrophy of the left gluteal muscles. The disease was of six years' standing. Pelvic Tallerman baths were given; great improvement resulted, and the patient can go to work and bends and turns the lumbar spine without pain.

ARTHRITIS DEFORMANS.

CASE 3 and 720.—This patient since 1899 had suffered from gradually increasing stiffness of both shoulders and could not raise the arms; the left wrist was stiff, the knees and the ankles were swollen and painful, and the fingers were stiff. The patient had to be carried into the Landesbad. Walking or writing could not be done and the patient was perfectly helpless. After a course in the spring and again in the autumn the patient got completely well, is free from pains, and walks, writes, and raises the arms above the head.

CASE 253.—The patient had arthritis deformans of the hands and all the finger joints; it had been gradually coming on for four years. The patient was unable to work. After treatment the right wrist was somewhat stiff, but the fingers were no longer swollen or painful and were freely moveable. The fingers can now be flexed, writing and knitting can be done, and the patient is fit for work again.

CASE 375.—The patient had arthritis deformans following influenza of two years' standing; the ankles and knees were attacked and the hands were severely affected. The patient could not work. After treatment walking was easy and the hands were free from swelling and pain. The patient can now return to work.

CASE 43.—The patient had typical arthritis deformans in both knees and in 1899 could not walk, had to be carried, and left the institute walking with sticks. In 1900 there were further improvement and perfectly free movement. The patient is completely cured.

CASE 44.—The patient had arthritis deformans of both knees, which were stiff and fixed at an angle. After treatment the swelling disappeared, there was free painless movement, and the patient walked upright.

CASE 78 and 870.—The patient had arthritis deformans of both knees and ankles. There were atrophy of both thighs and calves and pain in the sacrum. On arrival in the spring the patient could not walk, had to be carried, and could not rise from the sitting posture without help. The right shoulder was stiff. Result: swelling of the knees has subsided, walks easily, and the right shoulder is better. The patient can return to work.

CASE 90.—The patient had severe arthritis deformans of both hands. She could not close the hands and could not follow her calling as teacher. After treatment the hands were still somewhat swollen but were freely moveable. There was progressive improvement after discharge, so that the patient is now completely free from disease and fit for work.

CASE 135.—The patient had rheumatic ankylosis of the lumbar and middle vertebræ; the spine was slightly scoliotic but absolutely immoveable, like a fixed splint; bending and turning were impossible; the knees were swollen and painful. After treatment the spine could bend and turn, though movement was limited, the knees were free, and the patient is fit for work within limits.

CASE 654.—The patient came in 1899 with arthritis deformans in the knees and ankles and flexure of the hip. He had to be always carried and he left apparently without any improvement. Some months later the swelling of the affected joints subsided. The patient was free from pain and walked well, but as the same trouble still remained in the right ankle he underwent another course in 1900, and left the hospital a capital walker and a thoroughly healthy man.

I add here some other diseases which have undergone the Tallerman treatment. Highly interesting, and the first successful one of its kind, is a case of scleroderma, which I shall describe somewhat more in detail, as this disease has not previously been treated by the Tallerman method.

SCLERODERMA.

CASE 236.—The patient was a woman, 46 years of age, in whom the disease had begun six years before. The cause was unknown. The skin was affected on the abdomen and chest, almost the whole of the back, the feet, and the lower part of the legs, knees, fore-arms, and hands. As for the last, the disease was so far advanced, particularly in all the fingers, the left wrist, and the back of both hands, that the skin could not be moved in the slightest degree. With fingers crooked like talons and standing out from each other, the hands presented a rigid whole as if chiselled out of stone, and the illusion was such that in examining them one was almost afraid of snapping a finger right off. The woman could scarcely walk, as the legs and feet were similarly affected, and, moreover, the sclerosed skin at every attempt to move and even spontaneously, particularly at night, caused her maddening pain. The sensibility of the skin was preserved, but, on the other hand, not the slightest sign of perspiration could ever be produced even when the affected parts were exposed to the hottest sun. The mail-like skin on the back and chest prevented proper respiration. The heart, urine, and lungs were free from abnormal signs. The patient presented an appearance of frightful misery and wretchedness. Her features were also distorted by pain, for the disease had begun to attack the face. In the year 1879 I published a case of scleroderma in Virchow's *Archiv* in which I had attempted to ascertain the condition of the sweat glands by pilocarpine injection, but without any success in inducing perspiration. I had also removed a piece of diseased skin and made some microscopical sections. Of the sweat glands some thin threads could still be distinguished embedded in dense fibrous tissue. With this experience in my mind I had recourse in the present case to the Tallerman treatment with very faint hopes. After a few sittings, however, perspiration was induced not only in the unaffected parts, but also in the hands and feet under treatment in the apparatus. The pains subsided, the skin began to be moveable again, the fingers lost their claw-like appearance and could be brought closer together. The patient began to walk better. After a stay of four weeks she left the institution. On Oct. 11th she returned and informed us that the improvement had steadily progressed. Her appearance was materially better; her previously depressed frame of mind had given place to a lively expectation of becoming once more able to work. She walked with ease, and could sit down and get up without any of the difficulty and pain she had previously felt, and the skin was looser. Even in the hands, which were still in need of further improvement, though the fingers could almost be closed, she had the feeling that they "were alive again." At the beginning of 1901 she could write, knit, walk, was free from pain, and much stronger.

MYXŒDEMA.

CASE 652.—The patient was an unmarried woman, 34 years of age, previously healthy. In 1898, after being severely poisoned by gas, she began to suffer from myxœdema, which chiefly attacked the lower part of the back, the buttocks, and the thighs. She was for some time in the hospital for nervous diseases at Strasburg, and was sent to me from there. She was very anæmic and very depressed; she wept readily and was somewhat weak mentally. She could scarcely walk and had to be half carried into the Bad. The skin was greatly thickened, pale, doughy, infiltrated, and scarcely moveable on the underlying tissues. She was first treated with inhalations of oxygen and hip baths. As soon as she became somewhat more composed the Tallerman treatment was applied. The skin became distinctly thinner and more moveable; she improved greatly in appearance and strength, and eventually could walk by herself not only into the town but to the old castle, a distance of three miles with a rise of 600 feet.

The improvement in this case cannot, of course, be attributed to the hot-air treatment alone, but it had, at any rate, a favourable effect on the condition of the skin. In sciatica and chronic articular rheumatism I have seen good results obtained in a great many cases by combining other methods of treatment—for instance, by alternating ordinary warm baths with hot air or hot air with fango, and that in very severe and old cases. But in the end one picks out the most hopeless and intractable cases for the Tallerman

treatment, and I am bound to say that there has hitherto been no method of treatment so capable as this of improving arthritis deformans as to effect the abolition of pain, the restoration to work, and a new lease of life. Such cases could only be compared in their hopelessness with far advanced pulmonary tuberculosis. All that we could previously give these unfortunates was pity and some mitigation of suffering. The Tallerman treatment has accomplished a most gratifying revolution in this field of medicine and is worth more than all previous remedies put together. The improvement obtained in ankylosis of the spine, which is closely connected with arthritis deformans, justifies us in entertaining hopes for many departments of orthopædic surgery, and the success in scleroderma described above places this disease, which has hitherto been regarded as incurable in its severer forms, in a more favourable light from the therapeutic point of view.

NOTES ON A CASE OF TEMPORO-SPHENOIDAL ABSCESS FOLLOWING MIDDLE-EAR SUPPURATION; OPERATION; RECOVERY.

BY PERCY JAKINS, M.D. DURH.,
SURGEON TO THE CENTRAL LONDON THROAT AND EAR HOSPITAL.

A MAN, aged 24 years, was admitted into the Central London Throat and Ear Hospital on August 21st, 1899, complaining of great nausea and giddiness and an excruciating headache over the frontal and occipital regions and on the right side of the vertex. There was a clear history of phthisis, four of his relatives having died from this disease. The patient had had whooping-cough at the age of four years, and measles when he was a year older; when he was 10 years old he had scarlet fever, and three years previous to the time of his admission to hospital he suffered from influenza; the ears had not been affected in any of his illnesses. For two years he had had a discharge from the right ear, the cause of which was unknown. Five months before admission he attended a special hospital for this discharge; a polypus was removed, and he was told to syringe his ear with a lotion and to have a white powder blown into it, but neither the removal of the polypus nor the treatment prescribed caused any diminution of the discharge which became offensive. 17 days before admission (August 4th) the patient was said to have complained for the first time of pain about the right ear (especially over the mastoid) which extended to the head and was accompanied by vomiting on that day. The pain increased in severity during the next seven days and Dr. John Cross of Gloucester-road, N.W., who was called in, found the patient suffering great agony; the patient's sufferings were somewhat relieved by the free use of sedatives. On August 14th he appeared so much better that he went out for a walk for a couple of hours, and on the evening of the same day was able to play the piano; next day, however, he relapsed into his former state and became worse, and a second attack of vomiting occurred. The patient's appetite appears to have kept very good, but his relatives had noticed that for some four months before this attack he constantly complained of being cold, and was accustomed to crouch beside the fire, although it was warm weather; there was no history of a distinct rigor. The temperature was noted from the 16th until the date of his admission; the highest recorded was 101·4° F. on the evening of the 20th; the lowest was 98·4° on the morning of the 19th. The bowels had been very constipated, necessitating the free use of aperients.

On admission the temperature was 99·4° and the pulse was 64. The patient had severe pain all over the right side of the head, the right mastoid was very tender on pressure, and there were marked giddiness and nausea; the complexion was very pale, there were sordes on the lips and tongue, and the breath was decidedly offensive. The patient was heavy and drowsy, his speech was slow, and his body was much wasted. On examination the meatal canal was found to be full of offensive pus, and when this had been removed there was seen to be a distinct bulging of the superior and posterior meatal wall. On the following day (August 22nd) the patient, whose temperature was 98·4° at 10 A.M., was placed under chloroform, the part having been previously shaved and rendered aseptic, and a semilunar incision was made over the right mastoid from the lower border of the temporal muscle to the apex of the mastoid, the periosteum was reflected, and the cartilaginous part of the meatus was separated from the osseous. The ear having been drawn forward the antrum was explored and was found to contain granulation tissue and cholesteatoma; this was curetted. The attic was found to be in a similar condition and was treated in the same way, and a communication was found leading to the middle fossa, the dura mater being exposed. The skin incision was carried upwards, the temporal muscle was divided, the periosteum was reflected, and a piece of bone was removed by the trephine. As the dura mater looked healthy and there was no bulging I decided not to explore the cerebrum, feeling sure that if an abscess was there it would make its way towards the point of least resistance. The wound was packed with iodoform gauze and the patient was put back to bed. On the next day the patient felt decidedly better, the headache was less, and he had slept fairly well; the highest temperature for the day was 99·4°. On the following day he expressed himself as feeling quite well; the highest temperature for the day was 99°. On the 25th the patient suddenly became exceedingly restless and complained about noon of severe headache, especially over the occipital region. He soon became drowsy and then comatose, and the nurse noticed that he did not move his left arm or left leg. I was sent for, and I found that the patient had complete left hemiplegia. Chloroform having been given, on removal of the packing the dura mater was seen to be bulging through the trephine opening. The dura mater was incised, a medium-sized trocar and cannula was then driven into the brain-substance for a distance of one and a half inches, and on withdrawing the trocar a very offensive pus escaped. A Horsley's pus seeker was next used and the abscess cavity was emptied of its contents, about two ounces. A large drainage-tube having been passed into the cavity the wound was packed with gauze. The temperature was 97·4° at 6 A.M. The evening temperature (taken at 5.30) was 103·0°. The patient was very restless, continually moving his right leg; in a short time he began to move his left leg. Next day (August 26th) he was better and could move his left arm and leg; the highest temperature for the day was 102·8° at 2 P.M. On the 27th the highest temperature for the day was 101·2°. On the 28th, as the patient was very restless and almost maniacal, shouting and trying to get out of bed, the night nurse was obliged to send for my colleague, Dr. Peter H. Abercrombie, who prescribed 40 grains of bromide of potassium, followed in half an hour by a subcutaneous injection of one-third of a grain of morphia; after this the patient slept well. The highest temperature for the day was 101° at 10 A.M. On the next day the drainage-tube was removed, cleaned and shortened, and re-inserted; the highest temperature for the day was 100·4 at 2 A.M., and it was thenceforth normal. The patient made an uninterrupted recovery. The tube was removed on Sept. 20th and he left the hospital two days afterwards, having been resident for 33 days. I examined him on Dec 9th and found him quite convalescent. To use his own words, "he felt better than he ever did," and he had gained weight and strength.

This case, I think, bears out the opinion which I hold that the presence of a polypus or granulation tissue in the external meatus indicates trouble in the antrum or attic or both, and that simple removal of the growth through the external meatus in no way touches the disease which is causing the trouble. It also illustrates another point—namely, that in cases of suppuration from the middle ear which do not yield rapidly to treatment the advisability of the radical operation should be seriously considered, not only with the view of arresting the discharge from which the patient suffers but to prevent deeper mischief, such as cerebral abscess. Within the last two years I have operated upon four cases of cerebral abscess caused by extension of mischief from the middle ear.

For the full notes of the foregoing interesting case and for the necessary after-attention upon the patient I am indebted to my colleague, Dr. Abercrombie.

Harley-street, W.

"SELENIUM COMPOUNDS AS FACTORS IN THE RECENT BEER-POISONING EPIDEMIC."

BY F. W. TUNNICLIFFE, M.D., M.R.C.P. LOND.,
AND
OTTO ROSENHEIM, PH. D., F.C.S.

WE have quite recently [1] drawn attention under the above title to the fact that selenium was present in a sulphuric acid obtained from the maker implicated in the recent epidemic and in two samples of beer obtained from a Salford brewery. Since then we have also found it in an invert sugar obtained from Bostocks.[2] Our quantitative estimations of selenium in beer and brewing sugar have confirmed our original conclusion "that selenium compounds have played a definite rôle in the recent beer-poisoning epidemic, their part being, however, subsidiary to that of arsenic." Although we intend to publish later our results and methods in detail, together with further observations, it is important so far as concerns the subject matter of this note to state that in the samples of beer examined by us selenium dioxide was present in quantities amounting to from one-fourth to one-third of the arsenic.

In an interesting paper by Dr. W. H. Willcox in THE LANCET of March 16th, p. 778, attention is drawn to the influence of selenium upon the formation of the arsenical mirrors obtained by Marsh's test. These observations, however, refer to the presence of selenium in large excess (from double to 20 times the amount of arsenic). Dr. Willcox is evidently unaware of the work of L. Dawydow.[3] This observer drew attention to the retarding and even completely inhibitory influence of relatively large quantities of selenium upon the formation of arsenical mirrors, and gave methods for its elimination. We were some time ago able to convince ourselves of the correctness of Dawydow's observations. At the same time we obtained conclusive proof that when the selenium present amounts to from one-fourth to one-third of the arsenic it practically does not interfere with the formation of the arsenical mirror, this latter not being distinguishable from a pure arsenical one. With regard to Dr. Willcox's apparent confirmation of our early statement that selenium in the absence of arsenic is not shown by Marsh's test, we would point out that according to our observations this is only the case when a lead acetate wash-bottle is used, whereby the small quantities of hydrogen selenide evading the precipitation on the zinc are retained as lead selenide. We were in the habit of constantly employing this wash-bottle as a precautionary measure[4] and hence the statement.[5] If, however, the lead acetate wash-bottle is not used it is possible to show even one-tenth of a milligramme of selenium by Marsh's test when using a capillary tube (small red ring with yellowish margin).

With regard to the identification of small quantities of selenium in organic fluids in the presence of larger quantities of arsenic by means of Reinsch's test we do not think that anyone not specially directing his attention to it could detect the selenium by microscopical examination of the sublimate, the crystals being for the most part badly defined. We have made many such experiments ourselves, but have relied upon the micro-chemical reactions of the dissolved sublimate for identification of selenium.

Our results have proved that selenium was present in two of the Manchester beers in poisonous quantities, but in neither case did the amount of it reach that of the arsenic. We therefore quite agree with the conclusions of Dr. Willcox that in the beers examined by him selenium was not present in amounts 20 or 10 times as great as the arsenic.

King's College, London, March 19th, 1901.

[1] THE LANCET, Feb. 2nd (p. 318), and 9th (p. 434), 1901.
[2] For this sugar we are indebted to Mr. Gordon Salamon.
[3] Farmaceft, 1895, ill., 1, Abstracted in the Chemiker Zeitung, Rep., 1896, page 70 Analyst, &c.
[4] Compare Pedenske, Arbeiten aus dem Kaiserlichen Gesundheitsamt, 1889, and Kühn und Saeger, Berichte der Deutschen Chemischen Gesellschaft, xxiii., 1798.
[5] Although not distinctly stated, we presume that Dr. Willcox used an acetate of lead wash-bottle when confirming our statement.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

A CASE OF MALFORMATION.

BY W. R. H. STEWART, F.R.C.S. EDIN.,
SURGEON TO THE EAR AND THROAT DEPARTMENT OF THE GREAT NORTHERN CENTRAL HOSPITAL; CONSULTING SURGEON TO THE LONDON THROAT HOSPITAL.

THE little patient, who might justly be termed a pathological curiosity, was brought to the out-patient department of the Great Northern Central Hospital. The child had a double hare-lip, a double cleft palate (wide and extending the whole length), and a deep central ulcer on each cornea. There were half-a-dozen supernumerary auricles scattered about the face, the largest situated just below the left extremity of the lower lip and the remainder scattered about the left side of the face and neck. On the right side the ear was represented by a much enlarged lobule and a portion of the tragus. I could find no sign of meatus. There was

no opening through the soft tissues and no ridge or opening in the firmer structures could be felt. Having removed a portion of the pre-maxillary bone both sides of the lip were closed, the whole being done on three separate occasions. The space on the right side was very great, but it united very well. The child died on the day following the last operation, and unfortunately the body was allowed to be taken away without a post-mortem examination being made, so that the real state of the ear could not be obtained. The left ear was normal.

Devonshire-street, W.

A CASE OF LANDRY'S PARALYSIS.

BY ANDREW ROSE, M.B., C.M. ABERD.

ON Jan. 15th, 1901, my colleague, Dr. H. Osborne was called to see a youth, aged 18 years, who was taken suddenly ill while at work. He found him suffering from paralysis of the lower extremities. There was no history of any injury and his fellow workmen said that previously to his being taken ill he was quite well and was working as a fitter at his bench as usual. The first symptoms were that he felt cold and complained of acute pain in his back and right side and immediately afterwards he said that the "use went out of

his legs" and that they were like "pieces of wood." I saw him three hours afterwards at his home in much the same condition. He was unable to move either leg and complained of their icy coldness even after continued counter-irritation and warmth. I made a careful examination of the paralysed area which extended from an imaginary line on a level with the umbilicus downwards; the superficial and deep reflexes were abolished and no amount of pinching or pricking would elicit any symptoms of pain. Faradaic and galvanic currents were also applied and both gave negative results. A strong Faradaic current was passed through the muscles of each arm but they reacted sluggishly as also did those of the trunk. The mind was quite clear and the patient remarked that he was quite well if his legs were right. On my second visit 12 hours afterwards I found that the general condition was much worse and that he had had a restless night, but had partaken of a good deal of liquid nourishment. The heart showed signs of failing and the respirations were frequent and laboured. The interrupted current gave little or no response when applied over the muscles of the upper extremity, which showed that the paralysis was ascending. The patient was drowsy and listless but when roused he was quite sensible. Both pupils reacted sluggishly. There was nothing abnormal in the temperature. During the night he passed urine and fæces involuntarily. He died within 24 hours of the onset and was conscious to the end. At the necropsy none of the organs were found to present any pathological changes except the liver and spleen which seemed to be enlarged and mottled. The brain and spinal cord were apparently quite healthy.

This case of acute ascending paralysis is deserving of note owing to the sudden onset with no premonitory symptoms whatever and the very rapid course of the illness, also the absence of sensation over the paralysed parts. Bristowe, Taylor, and Westphal state that paralysis generally takes place in two or three days after the premonitory symptoms of weakness in the legs, that the course of fatal cases is from eight to 10 days and that the sensory nerves are scarcely if at all involved. I find that exposure to cold is put down as one of the causes of the disease. The morning of Jan. 15th was very cold indeed in Horwich and my patient was standing in a draughty part of the workshop, so it is probable that the low temperature was the initial cause in his case by bringing on a spasm of the spinal arterioles; or would the extreme cold act as a stimulant to some latent hereditary something and produce the paralysis? A sister of the deceased, who is now 30 years of age, has had paraplegia since infancy following acute anterior poliomyelitis. There might be some hereditary connexion. The rapid course of the disease would suggest the thought that there must be some infective toxic influence at work. Altogether the case has been a very singular one and it shows that much care should be observed in giving a prognosis in all cases of paraplegia. There were no symptoms whatever on the day preceding death that the case would have a fatal termination so soon.

Horwich, Lancs.

"A CASE OF PEMPHIGUS NEONATORUM IN AN INFANT THREE DAYS OLD."

BY VICTOR J. HODGSON, L.R.C.P. LOND., M.R.C.S. ENG.

I WAS interested to read Dr. C. J. Glasson's communication in THE LANCET of March 9th, p. 697, having myself had a similar case last January. The patient was a full-time female child. On the morning of the third day I noticed that both eyelids had on them bullæ of the size of pigeon-peas, one on the right eye and two on the left. They contained a transparent fluid and were surrounded by a rose-coloured ring. There was very little exudation into the subcutaneous tissue of the eyelids, as shown by the absence of swelling. On the following day there was a fresh bulla of the size of a crown-piece on the abdomen near the umbilicus, and during the following week several more appeared, choosing for sites the fold of the groin, the outer parts of the thigh, and the nape and sides of the neck. The child seemed none the worse for this severe skin affection until from a week to 10 days from its onset, when either the contents of the bullæ had become pustular or the cutis had broken leaving a raw surface; then the child became restless, cried a good deal, and passed very offensive motions. On one occasion she had a fit. Eventually the trouble cleared off and the child was entirely free from blemish three weeks from the date of the first onset. There was no general desquamation. I feel sure that the condition was not due to syphilis because (1) I know the antecedents of both father and mother, the latter of whom has had no miscarriage, stillbirth, sore-throat, or loss of hair; (2) there is one elder child, aged three years, who is equally free from suspicion; and (3) the eruption did not appear on the soles of the feet, the palms of the hands, or the nates. The umbilical cord came away normally; there was nothing to suggest the possibility of infection by this channel. During the birth of the child I noticed that the eyes received a gush of amniotic fluid, and there was some delay in cleansing them. It is interesting in this connexion that the first appearance of the bullæ was on the eyelids. I am informed by a fellow practitioner that the child's cousin on the father's side suffered from a bullous eruption at an equally tender age.

Westcliff-on-Sea.

A Mirror OF HOSPITAL PRACTICE, BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum propriis collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

BIRMINGHAM GENERAL HOSPITAL.

A SUCCESSFUL CASE OF EXCISION OF THE CÆCUM, VERMIFORM APPENDIX, AND PORTION OF THE ILEUM FOR CARCINOMA.

(Under the care of Mr. GEORGE HEATON.)

THE advance in recent years in the treatment of malignant disease of the large intestine has been very great. It is now only a few years since the palliative treatment of colotomy of one form or another was the only aid that surgery had to offer to the sufferers from this serious malady. The discomfort and annoyance resulting from colotomy were in many cases considered to be sufficient argument against its performance. Excision first replaced colotomy in malignant disease of the lower three inches of the rectum. At the present time complete removal of the growth is undoubtedly indicated in all cases where a diagnosis has been made sufficiently early, for the results are extremely good. A case in many respects resembling the one recorded below was published by Dr. Lowson of Hull in 1893.[1] The value of Murphy's button for intestinal anastomosis is still not acknowledged by everyone, but it may certainly be said that those who have used it much speak very well of it, while those who condemn it have in most cases not employed it on more than one or two occasions.

A delicate-looking anæmic woman, aged 53 years, was admitted into the Birmingham General Hospital on July 31st, 1899, suffering from abdominal pain and extreme weakness. The patient had never been very strong. Since her childhood she had always had some trouble with her bowels and had been habitually constipated. Three years before admission she began to have attacks of abdominal pain and the constipation and general irregularity of the bowels became worse. She had never passed blood in any quantity from the bowels but had been troubled latterly with hæmorrhoids. Eight months before admission she had a severe abdominal illness and was laid up in bed for several weeks with sickness and abdominal pain. Since that time she had rapidly deteriorated in general health and had lost weight. When first seen she weighed only 4 st. 8 lb. Her mother died from an internal cancer at the age of 72 years.

On admission the patient was extremely pale and sallow. She was very weak and feeble, especially on the least exertion. The conjunctivæ and mucous membranes were very pale. Her appetite was poor and capricious. The walls of the abdomen were lax. A large hard mass of about the size

[1] THE LANCET, March 25th, 1893, p. 648.

of a cricket-ball could be felt and seen in the right iliac fossa. It was irregular in outline and was situated about two inches from the right anterior superior iliac spine in a line between it and the umbilicus. The tumour seemed fixed to the abdominal wall but was somewhat moveable in the iliac fossa. It was tender on pressure and dull on percussion, and pain radiated from it across the abdomen. The bowels were opened irregularly, sometimes several times a day. The motions were loose and mixed with small scybala and covered occasionally with mucus. The temperature was raised slightly at night and she slept badly owing to pain. The heart and lungs were apparently normal. The urine was pale-coloured and small in quantity and contained neither sugar nor albumin. A diagnosis of malignant disease of the cæcum was made and it was decided to excise it if possible.

An operation was performed on August 11th. Chloroform was administered and the abdomen was opened by a vertical incision in the right linea semilunaris. The tumour, which was an enlarged cæcum, was adherent to the abdominal wall and a portion of this was cut away to free it. The cæcum, appendix cæci, and termination of the ileum were then dissected up from the iliac fossa. Two or three large branches of the ileo-colic artery were exposed by this dissection on the inner side of the cæcum and were ligatured. It was then possible to bring the cæcum with its appendix, the lower end of the ileum, and part of the ascending colon outside the abdomen through the operation wound. This was done and the peritoneum was carefully packed with sponges. The small intestine was then divided about three inches from its junction with the cæcum after previously clamping it with a Makins clamp. The ascending colon was then treated in the same manner about three inches up. The portions of ascending colon, cæcum, and small intestine between the clamps were then carefully dissected away from their remaining attachments, and after the ligature of a few remaining small blood-vessels were removed.

The ileum was then united to the ascending colon in the following manner. The cut end of the colon was closed by a continuous suture of its cut mucous membrane and a double row of interrupted Lembert sutures was passed through its serous and muscular coats. These sutures served the double purpose of closing the intestine and of arresting all bleeding from the cut blood-vessels. A short lateral incision was finally made on the inner side of the colon about an inch above its closed end and an anastomosis was made with the small intestine by means of a medium size Murphy's button. The intestine was then returned into the abdominal cavity, the sponges were removed, and the abdominal wound was completely closed by a number of silkworm-gut sutures passing through all the layers of the abdominal wall. The operation lasted in all an hour and 20 minutes. There was no shock and the patient's condition at its termination was very good.

The after-history was uneventful. The patient was fed per rectum for the first 48 hours, and was then given fluid nourishment by the mouth in gradually increasing doses. The bowels were opened naturally on the evening of the second day, and never afterwards gave any trouble. The wound was dressed for the first time on the seventh day, and was found to be soundly healed. The button was found in the rectum on August 24th, 13 days after the operation, and was removed. On the 27th the patient sat up for the first time, and was discharged convalescent on Sept. 15th wearing an abdominal belt. She has shown herself from time to time since, and is now in better health than she has been for some years. She has gained more than two stones in weight and is strong enough to manage a shop as she did before her illness. Her bowels act daily and medicine is rarely, if ever, required.

The cæcum with the growth is shown in the accompanying illustration, which is reproduced from a photograph. The tumour in the fresh state almost filled the lumen of the intestine and was greyish white on section with small blood extravasations in places. Microscopically it proved to be a typical cylindrical-celled carcinoma.

Remarks by Mr. HEATON.—The radical treatment of malignant growths of the large bowel by excision has lately had attention drawn to it by reports of successful cases by various surgeons. Barker, Paul, and McAdam Eccles have all lately published such cases. The case which has been related in the above abstract is a good instance of such an excision and shows the ease with which the operation may be done in a case not complicated by extensive adhesions and in which a diagnosis has been made before symptoms due to acute obstruction have supervened. Unfortunately at present it is only in a small percentage of cases of malignant disease of the large intestine that such

The cæcum laid open to show the growth.

extirpation can be undertaken or advised with much hope of success. The diagnosis is frequently arrived at only in a late stage of the disease when obstruction has already supervened or when the growth is already so advanced, or has involved neighbouring structures so extensively as to render its removal impossible. The surgeon can then only hope to palliate the patient's sufferings by establishing an artificial anus above the growth.

In cases where complete removal is possible it is at present a debated point whether it should be done in one or two stages. By the latter method the affected portion of bowel is first of all brought outside the abdomen and fixed there, the portion of it which contains the growth being subsequently excised. The patient is thus left with an artificial anus or is subjected to an operation for its cure. Theoretically, primary excision and end-to-end anastomosis constitute the better procedure, if the operation be performed before the onset of intestinal obstruction. But unfortunately the condition of the patient will frequently preclude the performance of so severe an operation and then we must be content to do the excision in two stages. For intra-peritoneal intestinal anastomosis in these cases there is no method, in my opinion, to compare with the use of a Murphy's button. The shock and severity of the operation by its use are much lessened because the anastomosis can be so rapidly performed.

CARDIFF INFIRMARY.—Three years ago it was decided to provide a gynæcological ward in the Cardiff Infirmary, and Dr. John D. Williams was appointed gynæcological surgeon. During the past two years the management committee have been compelled to lessen their expenditure and the women's ward was made to suffer until now Dr. Williams has only eight beds at his disposal, with an unoccupied ward of 20 beds which are empty from lack of funds for their support. Lady Windsor, Lady Aberdare, Mrs. Mackintosh of Mackintosh, and Miss Talbot have each undertaken to defray the cost of one bed and are appealing to the ladies of Glamorganshire for annual subscriptions of about £800 to enable the ward to be occupied completely and permanently.

Medical Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

The Clinical and Pathological Features of Pernicious Anæmia, its Antiseptic and Serum Treatment.

A MEETING of this society was held on March 26th, Dr. F. W. PAVY, the President, being in the chair.

Dr. WILLIAM HUNTER made a communication on a case of Pernicious Anæmia with Observations on the Clinical Features, the Infective Nature, and the Antiseptic and Serum Treatment of the Disease. The patient (who was exhibited before the society) was a man, aged 37 years, whose symptoms—breathlessness, palpitation, and progressively increasing weakness—had come on very gradually two years before. The case had previously to coming under observation been regarded as a case of gastric catarrh on account of the discomfort in the stomach. The most prominent symptoms were a constant pain in the stomach and mouth, which was liable to exacerbations, coming on about every three weeks and lasting two or three days, after which the mouth and tongue became each time very sore and the tongue sore. The gastric symptoms consisted of pain in the stomach, nausea, and retching, which were worse when the organ was empty. A curious tingling and numbness of the fingers were complained of occasionally. The history was a very typical one as regards the oral sepsis, extending over eight or 10 years, followed eventually by gastric pains. The gradual onset of the anæmia with weakness and with recurrent attacks of gastric disorder and glossitis were also very characteristic. On admission there were four groups of symptoms—(1) weakness and extreme anæmia and their usual effects; the red corpuscles were only 27 per cent. of the normal and hæmoglobin only 35 per cent.; there was also poikylocytosis; (2) hæmolytic symptoms—viz., urobilinuria and a lemon colour of the skin; (3) oral and gastro-intestinal symptoms—viz., sore tongue, dental necrosis, suppuration of the gums at one part (which had existed for 10 years), and gastric pains; and (4) toxic symptoms—viz., tingling and numbness of the fingers and irregular pyrexia. The treatment consisted of oral and gastric antisepsis, the teeth were scraped, some were extracted, and a mouth-wash was used. Mercuric chloride was administered constantly. On July 9th, 13th, and 23rd three injections of anti-streptococcic serum were administered. After the first the red corpuscles rose to 36 per cent., after the second to 52 per cent., and in the course of three weeks the red corpuscles rose to 65 per cent., the hæmoglobin to 72 per cent., the hæmolysis (as evidenced by the colour of the urine) was arrested, and the patient's health slightly improved. The injections were followed by febrile reaction, that after the first was very marked. The temperature during the first week after admission had been variable, between 99° and 97·5° F., but after the injections it became steadier and about normal. The patient was so much better that he went for a time into the country. On Sept. 26th liquor arsenicalis was added to the other treatment. The improvement continued, the patient gained over one stone in weight, and on Dec. 20th the red corpuscles had risen to 94 per cent. and the hæmoglobin to 100 per cent. The only symptom remaining was occasional numbness in the fingers. The case, Dr. Hunter remarked, must be regarded as a typical one of pernicious anæmia in its mode of onset and clinical history and the four groups of symptoms present. The case was the first he had been able to treat on the lines he had recently recommended—viz., complete and long-continued oral and gastric antisepsis. These aimed at the removal of the infective cause of the disease and of the septic conditions of the mouth and stomach which favoured its operation. Nevertheless, the infection still remained on the tongue and showed periodic tendency to break out afresh. On several occasions the soreness of the tongue had returned, accompanied each time by feelings of illness and increased signs of hæmolysis in the urine, but each time they were checked by strong antiseptic measures. The results clearly showed the beneficial effects of serum treatment, at the same time confirming the infective nature of the disease. The first two doses were 10 cubic centimetres, afterwards 5 cubic centimetres were given. In view of the reaction it would be advisable in future to begin with only 5 cubic-centimetre doses and to see that the temperature was not variable and erratic at the time of the injection. Dr. Hunter illustrated his paper with lantern slides showing the clinical and pathological data of the disease and a schematic representation of the course and results of his investigations during the past 15 years.

Dr. CHARLES REISSMANN asked what changes in the blood enabled them to identify pernicious anæmia with certainty. He had seen two cases lately which showed all the clinical features of pernicious anæmia and which were so diagnosed during life, but at the necropsies colloid cancer of the stomach was revealed which had never been suspected. Poikylocytosis occurred also in other diseases—in leukæmia, for instance—though here the myelocytes and leucocytes enabled them to identify the disease.

Mr. T. J. BOKENHAM asked whether Dr. Hunter had really made out the nature of the specific infection. The only way to do this was by cultivation and he would like to know if this had been done. He had recently suggested that serum-therapy might be employed to stimulate the endothelial cells of the liver and the case brought forward seemed to be an instance of this. He also asked what anti-streptococcic serum had been used? But, he asked, how could anti-streptococcic serum mitigate the toxin of a staphylococcus? In making experiments some time ago he had observed that the toxin of certain specimens of staphylococci produced marked hæmolysis.

Dr. SIDNEY COUPLAND congratulated Dr. Hunter on the value of his researches which had thrown so much light on the disease and which would enable them to change its name. Pernicious anæmia was a hæmolytic process due to a specific poison which operated through the portal circulation. It still remained to isolate the special bacterium.

Dr. T. D. SAVILL, referring to the clinical aspect of pernicious anæmia, thought that slighter instances of the disease or of an allied disorder might prove to be more common than was generally believed. The original conception of pernicious anæmia implied an intense form of anæmia, occurring for the most part in elderly men, and almost necessarily leading to a fatal issue. Among the out-patients at the hospital were a large number who applied for neurasthenic and angio-neurotic symptoms, but who also presented marked gastric symptoms and very bad teeth. The cure of such cases rested largely with the dentist. He (Dr. Savill) had not made precise observations, but their skin was always pale, often "earthy" in colour; and it might be a question whether these were not instances of a toxæmia allied to pernicious anæmia.

Mr. ARTHUR BARKER remarked that these cases had considerable interest from a surgical point of view, and he thought that the blood of certain cases of alveolar abscess might profitably be investigated. The case described by Dr. Hunter he had seen and the intestinal symptoms obscured those referable to the mouth. He did not think that they sufficiently realised how much the state of the mouth could contribute to the production of disease of the intestine and stomach.

Dr. HUNTER, in reply, said that in the case he had referred to of alveolar abscess there was not the faintest suspicion of that lesion during life. He had since seen 10 cases exactly like the typical case of pernicious anæmia he had described. He wished to acknowledge the valuable work which had been done by previous observers in this field, such, for instance, as Addison, Pye-Smith, Sidney Coupland, Byrom Bramwell, and Sir William Broadbent. He (Dr. Hunter) wished to correct the impression, if such existed, that this disease was a gastro-intestinal dyspepsia. The alimentary tract was only the locality where the diseased process took place and it stood to pernicious anæmia just in the same relation as those of intestinal lesions stood to typhoid fever or those of the throat to diphtheria. As to the diagnosis of the disease, it was not to be based upon the blood changes alone but upon the association of these with four definite groups of symptoms—viz., anæmia, hæmolytic changes in the urine, oral and gastro-intestinal symptoms, and fever with other toxæmic symptoms. As to the separation and identification of the organism, the streptococcus was only an associated bacterium and it was not hæmolytic. He had not yet isolated the true specific organism.

MEDICAL SOCIETY OF LONDON.

Cases of Abdominal Injury with Rupture of the Viscera.—Lateral Sinus Pyæmia and Cerebellar Abscess with Cheyne-Stokes Respiration; Recovery.

A MEETING of this society was held on March 25th, Mr. JOHN H. MORGAN, the President, being in the chair.

Mr. THOMAS H. KELLOCK made a communication on three cases of Abdominal Injury with Rupture of the Viscera. In the first case the patient was a man, aged 40 years, who had been run over by an empty hansom cab the wheel of which passed obliquely across the abdomen from right to left. On admission to the hospital half an hour after the accident he was evidently suffering from severe internal hæmorrhage. The abdomen showed no mark of injury though it was tender all over and moved very little with respiration. The area of splenic dulness was thought to be increased downwards and there were a fracture of the ninth and tenth ribs on the right side and synovitis of the left knee. The abdomen was opened in the left linea semilunaris, blood was found in the peritoneal cavity, and the spleen was found to be extensively lacerated. (The specimen was shown.) On attempting to bring it forward free hæmorrhage took place which was controlled by seizing the pedicle and ligaturing it; a small piece of the spleen had been completely torn away and was removed separately. The patient rallied well after the operation, but on the second day symptoms of intestinal obstruction appeared. These did not yield to treatment and death occurred on the fifth day. At the post-mortem examination the ligature on the splenic vessels was found to be firm. There were superficial bruising of many of the viscera and complete obstruction of the small intestine a few inches above the cæcum owing to the bruising of this structure. The second case was one of ruptured kidney. The patient, a man, aged 32 years, had fallen from a height of about 15 feet, striking his left loin against the edge of a plank; on admission to the hospital he showed all the signs of internal hæmorrhage; he said that since the accident he had passed a quantity of blood by the urethra and the urine he passed soon after admission contained a large percentage of bright blood. He complained of pain in the back and abdomen and of a constant desire to defecate; the left side of the abdomen was very rigid and less resonant than normal, there were no external mark of injury and no good evidence of free fluid in the peritoneal cavity. When an anæsthetic had been given a large tumour could be felt in the region of the left kidney. The abdomen was opened in front as it was thought there might be injury to the intestines in addition to rupture of the kidney, but the other organs were found to be uninjured. The right kidney having been examined the abdominal wound was closed and the left kidney exposed from the loin. The lower third of the kidney had been completely torn from the upper two thirds, the rent opening the pelvis. The pedicle was ligatured and both pieces of the organ were removed, the wound being closed round a drainage-tube passed to the bottom of the cavity. The patient made an uneventful recovery. The blood in the urine ceased at once; he passed 47½ ounces of urine in the 24 hours following the operation, an average of 39½ ounces for the next nine days, and 64 ounces per diem for the next 13 days; then it became about normal in quantity. The third case was a woman, 55 years of age, who was knocked down by a hansom cab, one wheel passing across the abdomen just below the ribs. On admission to the hospital she showed very much the same signs of ruptured spleen as were noted in the first case. On opening the abdomen a quantity of blood escaped; the spleen was found to be much lacerated and torn away from its vessels; ligature of these and removal of the organ did not stop the hæmorrhage, and on further examination a rent of the liver, almost severing the left lobe from the right, was found. As the patient's condition was very bad this was rapidly plugged with gauze which seemed to stop the bleeding, but she did not long survive the operation. Attention was called to the fact that both the patients who sustained laceration of the spleen were injured by the wheels of vehicles proceeding at a fairly slow pace and to the fact that all the cases bore out the teaching that injuries to the front of the abdomen were likely to rupture organs loose in the peritoneal cavity, whilst those inflicted from the back injured organs more firmly attached to the parietes. The diagnosis of rupture of the spleen was considered briefly and the question of associated injuries when the diagnosis of rupture of one viscus had been made. In the first case the injury to the intestines was the cause of death. The treatment of injuries of this kind was considered. The only satisfactory way of dealing with hæmorrhage from a ruptured spleen was by removal of the organ and ligature of its vessels. Reasons were given for removing the kidney from the back. It was thought better to remove the whole organ rather than attempt to save the upper part, as the rent had opened the pelvis.—The PRESIDENT remarked that all such cases were most instructive. The methods of dealing with hæmorrhage into the peritoneum were comparatively modern. The reasons advanced by Mr. Kellock in this case for making first one incision in front and then removing the organ from the back carried conviction to his mind, but it was a question of opinion whether that procedure was correct.—Mr. F. C. WALLIS referred to three cases of rupture of the spleen which were not operated on until some time after the injury. They all got well. As regards the case of ruptured kidney he would like to ask why Mr. Kellock elected to operate; it would be instructive to learn what were the guides in such cases when there was no external wound. Again, what were the indications for immediate operation as compared with operation later? The usual course of such cases if left was that the kidney became septic from its propinquity to the colon, and finally the other kidney became infected through the urinary bladder and up the opposite ureter.—Mr. CUTHBERT S. WALLACE remarked that increasing dulness under the left hypochondrium was a valuable sign of ruptured spleen. One of the cases referred to by Mr. Wallis was not operated on for four days. As to the indications for operation it was well to bear in mind the general symptoms and particularly the state of the pulse, which was very important; for instance, if at the end of six hours the pulse was still very rapid. Reference was made to a series of cases collected by Mr. G. H. Makins in the "Annals of Surgery," 1899. These were practically all the cases of ruptured viscera at St. Thomas's Hospital, 1889–98—viz., 292 cases of abdominal injury, which included 88 cases of ruptured viscera. In only 21 (23 per cent.) there was ruptured intestine and in 35 rupture of the kidney.—Mr. KELLOCK, in reply, said that there were two indications for operation in his case of ruptured kidney. First, the amount of blood the patient was losing in the urine; and secondly, the constant desire of the patient to defecate and pain in the abdomen, which made him (Mr. Kellock) suspect injury to the intestine, a condition of even still greater gravity.

Mr. H. F WATERHOUSE made a communication on a case of Lateral Sinus Pyæmia and Cerebellar Abscess with Development of Cheyne-Stokes Breathing with Cessation of Respiration under Anæsthesia; recovery after two operations. The patient was a dental surgeon admitted into Charing-cross Hospital on April 17th, 1899, with lateral sinus pyæmia. He had been for many years a sufferer from chronic tuberculous abscesses in the region of the right hip and had had a purulent discharge from both ears for the greater part of his life. In 1895 Mr. Waterhouse had operated upon him for a large supra-mastoid abscess on the right side and shortly prior to admission Dr. Green of Wimbledon had opened two abscesses of the right hip. On April 11th the patient felt ill; the temperature was 100° F. and the pulse was 100. On April 12th he had a rigor in a train. On April 13th he had a rigor of half-an-hour's duration and a temperature of 103°. On April 15th Mr. A. M. Sheild saw the patient with Dr. Green and diagnosed lateral sinus septic thrombosis but was unable to decide upon which side the condition was. On admission to Charing Cross Hospital the patient's temperature was 104·2°, the pulse was 100, and the heart and lungs were normal. There were no pupillary changes and no optic neuritis. From this time to April 28th the patient had repeated rigors, the highest temperature was 105·2°, and a systolic heart murmur developed after continuous pain over the base of the heart whilst he was in hospital. Cough was noticed a few days later and the sputa was of prune-juice colour. His condition became profoundly toxæmic and apparently hopeless. Much valuable time was of necessity lost in waiting in the hope of determining upon which side the sinus was affected. At last, on April 28th, when it became clear that the time for operative interference with any hope of success was rapidly passing away, Mr. Waterhouse operated upon the left lateral sinus and internal jugular vein, dividing the latter between two ligatures and incising and clearing out the septic thrombus in the former. Recovery took place; nevertheless, on May 1st Dr. J. W. H. Eyre, bacteriologist to the hospital,

found streptococci in the blood. Everything went well until June 7th when the patient was allowed to get out of bed. On June 8th complaint was made of headache, vomiting occurred, and the pulse fell to 56. Drowsiness increased until on the evening of June 10th the patient was comatose and there were double optic neuritis, Cheyne-Stokes respiration, and a pulse of only 50. It was then decided to explore the temporo-sphenoidal lobe and the cerebellar fossa on the left side. Unfortunately, the former was first attempted with negative result. Respiration ceased entirely under even partial anæsthesia. Owing to the patient's condition vigorous artificial respiration had to be resorted to and the movement thus caused some laceration of the cerebral substance by the exploring needle. Soon the pulse ceased to be perceptible, and as the patient was obviously very near death the exploring syringe was made to perforate the tentorium cerebelli from above. Immediately an ounce of fœtid pus was obtained, the respiration and pulse recovering at the same instant. The left cerebellar fossa was now rapidly trephined and several drachms of pus were evacuated. Progress was henceforth most satisfactory, although there was for many days much word-deafness owing to injury to the temporo-sphenoidal convolutions. The patient was at the present time in better health than before his illness and was in full practice as a dental surgeon. Speech was nearly perfect; he could now manage a gas and ether extraction, comprising from 16 to 20 teeth and stumps, and could walk 10 miles in spite of his lameness. Mr. Waterhouse alluded to the extreme difficulty that had existed with regard to the decision as to which lateral sinus was affected and the hesitation he felt in risking operating upon the wrong side. He considered that the endocarditis having developed whilst the patient was under observation, and the presence of streptococci in the blood, proved it to be of pyogenic origin. He regretted that he had not at once, in the second operation, trephined for cerebellar abscess, but gave cogent reasons for acting as he had done. Remarks were also made as to the difficulty in locating intracranial abscesses and another case was related in which Mr. Waterhouse had first explored the cerebellum for an abscess which was situated in the temporo-sphenoidal lobe. This case fortunately also recovered.—The PRESIDENT remarked on the unusual and interesting features of this case which he had had the opportunity of seeing.—Mr. P. L. DANIEL remarked that this case pointed to the advantage of following a bold course even when the localising signs were very insignificant. Slight weakness of the left hand was the only indication in this case. As to whether the abscess was situated in the right cerebral or the left cerebellar lobe there was no real indication. The indications usually present in the jugular vein (pain and tenderness) were absent here. The case was a unique one. Recovery after such intense general toxæmia was very remarkable. The case threw some light on the functions of the cerebellum. It would seem that the hemispheres were quite subsidiary in importance to the vermis. In this patient the latter was the only part remaining. —Dr. G. L. EASTES wished to remark on the bacteriological aspect of the case. There was certainly a double if not a triple infection. In the first place streptococci were found in the blood; secondly, the pus was described as green, which probably indicated the presence of the bacillus pyocyaneus; and, thirdly, the pus was said to be "stinking," which probably indicated the presence of one of the anaerobic organisms.—Mr. WATERHOUSE, in reply, remarked that he quite agreed with Mr. Daniel. The chief difficulties in these cases were undoubtedly the slight localising signs present. He believed that they allowed cases to be lost because they waited for localising signs. He referred to two cases which he had recently seen in illustration. The first case died just before operation. In both cases an abscess on the temporo-sphenoidal lobes was discovered. The case under discussion undoubtedly had no left cerebellar lobe and the temporo-sphenoidal lobe was considerably injured; nevertheless, he was now managing a busy practice and he had no signs whatever of the damage to his cerebrum or cerebellum.

CLINICAL SOCIETY OF LONDON.

The Recent Epidemic of Typhoid Fever among the Troops in South Africa.

A MEETING of this society was held on March 22nd, Sir R. DOUGLAS POWELL, Bart., the President, being in the chair.

Sir WILLIAM BROADBENT, Bart., resumed the adjourned debate on the Recent Epidemic of Typhoid Fever among the Troops in South Africa. He remarked that the number of cases dealt with by Dr. H. H. Tooth was not sufficient to serve for an estimation of the incidence or of the severity of the epidemic, or for the establishment of points in the causation of the disease. This would only be possible when the statistics of the whole campaign could be made up. Statistics, however, required explanation and interpretation for which Dr. Tooth's work would be very valuable; he was a competent observer on the spot and his suggestions would serve for the guidance of others. Dr. Tooth thought that the infection was contracted at the Modder river, which apparently ran at one time in torrents and at another was a collection of stagnant pools, and which at the beginning of the epidemic was a sluggishly flowing stream. The interest of the epidemic, however, centred at Bloemfontein, where many efficient causes were probably in operation—namely, impurity of the local water, the sand, and the flies, together with contamination from person to person—which would not be possible in the well-regulated wards of a civil hospital. The prevalence of typhoid fever in India had also been explained as the result of dust and of flies. The latter should be collected wholesale and sent home for examination as to whether they were the carriers of contagion. In this country enteric fever was always considered to be water-borne, directly or indirectly (e.g., by watercress or oysters). Possibly they might have to revise their ideas as to the means by which the fever might be conveyed here also. With the troops there were antecedent predisposing conditions, such as (1) debility, overwork, and underfeeding; and (2) gastro-intestinal catarrh and derangements of digestion, both very common. With both of these sets of conditions they were familiar in this country and both might render persons susceptible who otherwise were not susceptible to the fever. The conclusion that diarrhœa and dysentery might favour the origin of typhoid fever was, he believed, proved; just as in this country influenza, in his opinion, opened the door to enteric fever in people who would not otherwise have it. Further, not only was the virulence of the enteric bacillus intensified by other toxins, but also through the exudation excreted by the enteric bacilli the mucous surface of the intestine became a nidus for other bacteria, the toxins of which aggravated the symptoms. There was in effect mixed infection, and occasionally the secondary infection was more serious than that of the original bacilli. Other important questions were, Did Europeans originally take the enteric fever to Africa, or did they find it there? Did it arise from local conditions without importation? and What was its incidence on the native races? He knew of no evidence on these points. As regards the type of the disease, Was South African fever exactly the same as ours? Professor Clifford Allbutt had said that there was no such thing as enteric fever; but there were individuals suffering from the invasion of special bacilli; that was so. In this epidemic in Bloemfontein there were individuals living under special conditions of overwork, but happily they had little or no access to alcohol which probably made the epidemic much less serious than it otherwise would have been. Again, there were no sewers or sewer gases in South Africa. The excreta of all kinds were exposed to air and sun, which had a destructive influence on bacilli of all kinds. The outcome of these two conditions should develop some peculiarities in the cases recorded. Had such peculiarities existed? Possibly such might be shown to exist when the cases were examined at the end of the war. In various epidemics in this country there were differences in the virulence of the poison. There were possibly varieties of the bacilli to which differences of immunity after previous attacks or after inoculation might be due. For example, a nurse who had worked through the Maidstone epidemic with impunity had afterwards enteric fever in this country, and subsequently went scathless through the epidemic at Bloemfontein; but later at Pretoria she developed an attack that nearly cost her her life. The immunity after her first illness apparently lasted only a little while. If he were proposing to be inoculated he would prefer to have the toxin prepared from the cases at the place of the epidemic to which he was going. He should consider it more efficient as a safeguard. He would refer only to two points in the symptoms and treatment. First, as to perforation. The indications that perforation had occurred were often not pain or local tenderness, but frequency of respiration and

of pulse. He had been called to cases in which the rapidity of the respiration was supposed to indicate the onset of pulmonary mischief, whereas it was a result of perforation. The respiration, too, was thoracic, not abdominal; in fact, he had never seen true diaphragmatic respiration in a case of perforation except when the patient was under the general influence of opium. In all cases of perforation large doses of opium might mask the abdominal symptoms. Secondly, as to the treatment of hæmorrhage he noticed that the successful issue was sometimes attributed to turpentine and hamamelis; but a morphine suppository was also used, and he believed that the quieting of the peristalsis of the bowel thereby produced was the cause of the success. When blood was poured into the bowel it promoted peristalsis, which again kept up the bleeding. In his judgment the most important point was to quiet the peristalsis by opium used in a suppository or given by the mouth. He had a great sense of the value of Dr. Tooth's paper, which would serve to draw the attention of future observers to many very important points in the disease.

Sir WILLIAM CHURCH, Bart., remarked that the Commission on which he served had been appointed to consider and report on the care and treatment of the sick in South Africa. It was no part of their duty to consider the causes of the epidemic of typhoid fever, and therefore he might not be able to add much that was of interest to the discussion. It had been alleged that the Commission had somewhat hurried the inquiry, but this was not so, though they had lost no time, because the country was anxiously awaiting their verdict. They had certainly worked very hard. Their first meeting took place at 3.30 P.M. on the very day of arrival at the Cape, and for 35 days, not excepting Sundays, they had carried on their investigations. He had asked many people their opinion about the value of inoculation, but the replies were so contradictory that it was impossible to form conclusions. He was personally inclined to think that it gave a certain amount of protection and had a certain modifying power. In a great many of the cases which he met with the inoculation had been only imperfectly performed. Dr. Tooth had stated that the Bloemfontein epidemic arose upon the Modder river. No mention had been made of Paardeberg, but his belief was that the chief source of infection was at Paardeberg. There the British troops had encamped below the Boer camp, and the river was full of dead carcasses. Laboratory experiments had shown that typhoid bacilli would live but a very short time in dry sterile sand; but they would live and retain their virulence in soil for at least 240 days. It was not decided whether the typhoid microbe was a sporulating bacillus or not. If it were the spores might remain potent for evil for an indefinite time. He believed it safe to assume that the bacilli were capable of living some time in dry dust. This enabled them to explain many features of the epidemic which could not be otherwise explained. For instance, it was a common thing to have cases at farms which had had no communication with towns or other possible sources for weeks at a time. He thought that the sand-storms might play an important part in conveying the disease. In the march from Paardeberg to Bloemfontein the clouds of dust must have been immense. He had not the slightest doubt that flies formed one of the readiest means by which typhoid fever was spread. Flies certainly congregated specially round typhoid stools; and on entering a hospital tent it was possible to identify which were typhoid patients by the way the flies congregated round the mouths and beds of those patients. Measures should certainly be adopted to prevent flies from spreading the disease. As regarded the clinical characters of the disease there were different causes which might render the disease more virulent. The type met with among the British troops was more virulent than that generally met with in South Africa. Many of the soldiers kept on duty while suffering from the disease and this helped to contaminate a larger area. The thirst produced by exertion in the hot sun was almost intolerable, and no wonder the soldiers were injudicious. It was often very difficult to obtain fuel for the boiling of water. Turning to the question of preventive measures these must, of course, depend on sanitation. Typhoid fever had always been prevalent in armies since its distinction from typhus fever. The difficulties in South Africa were considerable, especially in obtaining good water. The Modder could often be crossed without wetting the shoes, and with regard to many other rivers it was the same; and the water at this time had a pea-soup character which clogged any and every filter. He did not know why more attempts had not been made to establish Abyssinian wells. Formerly a sanitary officer had been attached to the headquarter staff of each division. This official had been done away with. There was a universal opinion that there ought to be a sanitary officer. Lord Roberts had appointed someone in that capacity at Bloemfontein, Johannesburg, and Pretoria, but this was not quite the same thing. It was extremely desirable that there should always be a medical officer of health at any large standing camp who should work in harmony with the military surgeons and should be also responsible for the space intervening between that and the neighbouring camp.

Brigade-Surgeon-Lieutenant-Colonel ALEXANDER CROMBIE, I.M.S. (retired), gave the statistics of 150 consecutive cases of convalescence from enteric fever which he had seen between September, 1900, and January, 1901, in the persons of British officers, who had contracted the disease in South Africa. Of these officers nine, or 6 per cent., had had a previous attack of enteric fever. In one instance the first attack occurred in May, 1900, in Bloemfontein. The patient came to England to recruit his strength, returned to South Africa in September, and had a second attack in November. After each attack his blood responded strongly to Widal's test. In another instance the patient had enteric fever in India in November, 1899, and a second attack in South Africa in August, 1900. The longest interval between the first and second attacks was three years. Of the 150 officers 13, or 8·7 per cent., had relapses; 38, or 25·3 per cent., suffered from thrombosis of the veins of one or both legs, to a greater or less extent; and 48, or 32 per cent., from bowel irritation during convalescence, sometimes very persistent, and constituting, after thrombosis, the most frequent obstacle to an early return to duty. One officer was still under treatment in a nursing home, 11 months after the attack of enteric fever. In this case Dr. Crombie had satisfied himself that the bowel irritation was due to muco-colitis. In another instance the patient continued to be troubled with similar symptoms 10 months after the attack. The other more frequent sequelæ were cardiac debility, peripheral neuritis, and periostitis. Of these 150 officers, 77, or 51 per cent., had been inoculated once, 6, or 4 per cent., twice, and 58, or 33·6 per cent., had not been inoculated. Except as regards relapses inoculation did not seem to have influenced either the frequency or severity of any of the sequelæ. Of those not inoculated 12 per cent. had relapses, while only 6·5 per cent. of the protected suffered from them. There was no reasonable ground for anticipating that the sequelæ would be modified by inoculation. Dr. Crombie then called attention to the remarkable features which distinguished the recent South African epidemic from all previously recorded ones—namely, the frequency of second attacks, the unprecedented number of cases of thrombosis, and the prevalence of subsequent muco-colitis during convalescence. Besides these features another was the extraordinary profuseness of the rash; in many cases it appeared to have been thickly distributed not only all over the trunk but also over the extremities. These South African cases offered in these respects a marked departure from ordinary epidemics and especially from what he had elsewhere described as "bastard typhoid," a form frequent in India, running a mild course of three weeks' duration without rash, diarrhœa, complications, or sequelæ. The South African cases would seem to indicate either special virulence of the bacillus typhosus, a supposition negatived by the low mortality, or that they arose from a mixed infection. In support of the latter view he quoted the recent experiments of Remy who had shown that when Eberth's bacillus was cultivated in vitro along with the bacillus coli communis their respective characters were intensely modified, the latter losing its power of forming indol and fermenting glucose, while Eberth's bacillus acquired the power of resisting its own antitoxin. This was consonant with the observations of Sanarelli, who had found the virulence of the bacillus typhosus greatly enhanced by the simultaneous injection of the bacillus coli communis into the same animal. Major R. H. Firth's observations were also of interest in this connexion. He found that several cases of "typhoid" fever in India were due to infection by the bacillus enteritidis of Gaertner, while the serum of others reacted to other members of the coli group more closely allied to the bacillus coli communis. The South African epidemic seemed to indicate the necessity for a reconsideration of the whole question, and if it should come to be admitted that the varying clinical picture raised by the word "enteric" was due to a mixed

infection it would be ranged along side of that other clinical picture which was called "phthisis pulmonalis," which was also the result of a mixed infection.

Captain W. A. WARD, R.A.M.C., expressed the conviction that flies played a prominent part in spreading the disease. The 19th Hussars, a regiment to which he was attached, was a seasoned regiment, yet it was the first to develop enteric fever in Ladysmith and suffered very extensively. The men had not been inoculated. The water-supply could not be suspected. In the neighbouring camp was the Liverpool Regiment which was next attacked; and next to this was the Naval Brigade, which was attacked third. On investigation he found that some years ago an enteric fever camp had existed on that spot. The ground was always black with a mass of flies which invaded the food. The clinical type of the disease differed from that met with in England. The advent was very sudden in nearly all the cases, the pain in the head was very acute, and the rash was peculiar. It appeared from the sixth to the eighth day, and was very profuse indeed, though it had no relation to the severity of the attack. A case was quoted in which the temperature suddenly fell when the rash came out. The temperature was often of an intermittent character. As regards preventive measures it could not be realised at home what great difficulties there were to contend with. The disposal of the dead needed reformation, and in his opinion cremation should be adopted. All the places where typhoid fever patients had been superficially buried would form future foci. The subject of inoculation must be approached with great caution. There would be great difficulty in compiling statistics. They would not go far enough or show sufficient particulars, and natural and acquired immunity also had to be considered. Personally he was inclined to believe that cases after inoculation had milder attacks and that the mortality was less.

Dr. A. P. HILLIER wished to refer to the question of the multiplicity of infection. It must be remembered that in these tropical countries there was a definitely milder type of the disease, and that there were a number of unclassified fevers in the tropics. Cases of simple continued fever might last from three or four days to three or four weeks. He would like to ask what were the points of distinction between typhoid fever and simple continued fever. In his belief typhoid fever was more usually conveyed by dust than by water. In Kimberley, where he practised for seven years, typhoid fever recurred each year about the same time, in the summer and autumn. The water-supply was above suspicion. The pail system of closets was in vogue. This night service was generally done carelessly, and thus the disease was spread by dust. Filters and boiling of water did not render water innocuous. He could fully support the idea of a sanitary officer attached to each great standing camp. He deplored the death of Captain M. L. Hughes, R.A.M.C. But why was only one bacteriologist appointed? Why not half-a-dozen? Was it not also expedient to consider whether the Army Medical Department might not be supplemented, not only from the rank and file of the profession, but also from among physicians. He thought that it would have been a most desirable thing to have sent out several leading physicians.

Dr. P. HORTON-SMITH remarked that it was abundantly clear from what had been said that the common soldier would not allow his water to be boiled or filtered before drinking. It was important, therefore, to exercise more care in the disinfection of the excreta. This was done during the war with extreme care and most admirably as regards the fæces, but less care was exercised as regards the urine, which from the myriads of bacilli often present in it was the more important. The observations made by himself as to this point had been lately fully confirmed in Professor Koch's laboratory in Berlin and also by Professor Petruchsky of Danzig. This important fact might be fully accepted. How, then, should they guard against the danger involved in the urine? They might add antiseptics to it after it was passed, but this, considering the large quantities to be dealt with, was almost impossible. Far better if they could sterilise it in the bladder before it was passed. Fortunately this could be done by the use of urotropin (hexamethylen tetramin) in doses of 10 grains three times daily. As had been shown by Richardson of Boston and himself and recently confirmed in Professor Koch's laboratory, no person came to harm from such treatment beyond occasionally a little pain on micturition, a condition which could be obviated by omitting the drug for a day or two or by diminishing the doses. He had taken the drug for six weeks in 10-grain doses three times a day with no ill-effects beyond occasional slight dysuria. The urine never became albuminous. There was much danger in the urine in cases of typhoid fever.

Dr. ARTHUR LONGHURST remarked that there were many different types of typhoid fever. The disease in hot climates was more severe and fulminating than in cold and dry climates, which tended to destroy the disease. The typhoid bacillus could apparently remain dormant for a considerable time in the system and then suddenly break out, much in the same way as the malarial microbe did. The disease was more successfully treated in a tent than in a hospital.

Dr. H. H. TOOTH, in reply, thought that it was to be regretted that the post of sanitary officer had been abolished; he believed that there was room for such an official and even for a sanitary corps, and that officer should be vested with considerable authority. As regards inoculation, Professor Wright had said that the dose should be adjusted to the individual. He would like to know how that could be done? He (Dr. Tooth) confirmed the statement that the typhoid fever patients in a ward could be identified by the flies which hovered over and settled upon them. He thought that when once a man contracted typhoid fever he should not be allowed to rejoin the forces during that campaign. As to the nature of simple continued fever—many of these cases were fever of exhaustion—some of them were mild cases of a fever *sui generis*, but the larger number of cases were undoubtedly typhoid fever, and gave the Widal reaction. One observer had found that 75 per cent. of cases of simple continued fever gave the Widal reaction. As a disinfectant urotropin did not meet the case of those who were walking about the camp; the patient had to be in bed while under the treatment.

OPHTHALMOLOGICAL SOCIETY.

The Evolution of the Colour-sense.—Peritomy in Episcleritis, Iritis, Herpes Ophthalmicus, and Purulent Ophthalmia.—Membranous Conjunctivitis.—Hypertrophy and Ossification of the Tarsus.—Note on the Surface of the Normal Cornea.

AN ordinary meeting of this society was held on March 14th, Mr. G. ANDERSON CRITCHETT, the President, being in the chair.

Dr. F. W. EDRIDGE-GREEN read a paper on the Evolution of the Colour-sense. He said the facts of colour-blindness threw a good deal of light on the evolution of the colour-sense. Cases of colour-blindness might be divided into two classes, quite separate and distinct from each other, though both might be present in the same person. In the first class there was light as well as colour loss. In the second class the perception of light was the same as in the normal sighted. Many colour-blind persons belonging to this class had a light perception much more acute than was found with most persons having a normal colour perception. Colour-blind individuals belonging to this class could be arranged in a series. At one end of this series were the normal sighted and at the other end the totally colour-blind. Dr. Edridge-Green had classified them in accordance with the number of colours which they saw in the spectrum as pentachromic, tetrachromic, trichromic, dichromic, and monochromic. All the facts which could be gained from the study of museums and literature pointed to the view that the sense of light was developed first and then the sense of colour, those waves which differed from each other most physically being first perceived as different—namely, red and violet. It was obvious that if a certain portion of the visual centre were set apart for the perception of colour, when it was very small and ill-developed it would only be able to perceive differences of considerable magnitude; but as more cells were added to the centre greater and greater power of perceiving differences arose. Each cerebral cell might at first have been connected with many optic nerve-fibres, and the number gradually diminished as evolution proceeded. It need only be assumed that the nerve impulses differed in quality—for instance, in wave length—just as the waves of light differed physically in wave length, and that when a nerve impulse of a certain character acted on a cerebral cell it gave rise to a corresponding sensation of colour within the range of perceiving differences possessed by that cell. It was obvious that if the nerve impulses did not differ in quality one could never have a sensation of colour. The spectrum was therefore first seen as grey, then

with a tinge of red at one end and violet at the other. As the colour sense developed it was not necessary that the rays should be so far apart before a difference was seen, and so the grey band gradually diminished until it entirely disappeared and the two colours met in the centre of the spectrum. A third colour, green, then appeared at the central point. Then yellow appeared, making four colours; then blue, making five; and finally orange, making the normal six. In some persons evolution had proceeded further and seven colours were seen, there being two colours between the green and the violet instead of one. It was found that paintings were first monochromatic, then red and violet were used as colours, then green, then yellow, and then blue. Homer's colour vision was of the degree just preceding total colour blindness. The description by different authors of the rainbow as having one, two, three, four, five, six, or seven colours was very characteristic. These facts showed that colour blindness was only an example of an earlier state in the development of the colour-perceiving centre.—The paper was discussed briefly by the PRESIDENT, Mr. JOHNSON TAYLOR, Dr. E. H. CARTWRIGHT, and Dr. J. H. PARSONS.

Mr. T. PRIDGIN TEALE (Leeds) read a paper on Peritomy in Episcleritis, Iritis, Herpes Ophthalmicus, and Purulent Ophthalmia. Under the name of syndectomy or *tonsure conjunctivale* this operation was introduced by Furnari of Paris for the treatment of panniform and chronic lesions of the cornea and for vascular ulcerations and interlamellar opacities.[1] The first notice in English literature was an article on Syndectomy by Mr. Bader in the Ophthalmic Hospital Reports, vol. iv., p. 109, for 1863, in which the author gave copious extracts from the original papers. Syndectomy was, as its name implies, an excision of a strip of conjunctiva and sub-conjunctival tissue denuding and exposing a ring of sclera round the cornea one-third of an inch in width. It was discovered that this sacrifice of conjunctiva was unnecessary and might at times be an actual disadvantage, so that peritomy came in as a substitute. By peritomy was meant the laying bare of about one quarter of an inch of the sclera immediately around the sclera by scissors and the division of all the vessels in that area which entered or emerged from the sclera without any cutting away of tissue. This separated conjunctiva in some cases reunited so rapidly with the denuded surface and corneal margin that in severe cases it was well to make two, three, or four radial cuts into the free edge of the conjunctiva so as to retard union and secure a more distinct cicatrix as a means of cutting off and constricting the vessels. The late Mr. Hewetson called their attention in Leeds to the remarkable effect of syndectomy or peritomy on the diffuse keratitis of inherited syphilis—an effect Mr. Teale fully endorsed from practical experience, and he wished now to produce evidence of its value in episcleritis, iritis, herpes ophthalmicus, and purulent ophthalmia, and to raise the question of its possible use in rare cases for the relief of tension. In episcleritis, a most painful and intractable affection, the immediate effect of peritomy in the relief of pain and suffering were marked, and in the three cases so treated considerable advance towards recovery in the local condition had taken place in the succeeding two to five months. In iritis of an obstinate character, whether syphilitic or otherwise, similar effects were noted; and in the three cases recorded immediate relief of pain was followed by steady improvement in the local appearance and vision in the course of a fortnight. There were probably few affections of the eye which were more unmanageable and more to be dreaded than the ulceration of the cornea and congestion of the conjunctiva which were associated with herpes. In two cases treated by peritomy the pain rapidly subsided, and in the course of a week or 10 days the healing of the ulcerated cornea and clearing of the inflamed iris were well advanced. In a case of sub-acute purulent ophthalmia originating in congenital infection of several days' duration and presenting marginal ulceration of the cornea and opacity completely obscuring the pupil peritomy was performed, and with such benefit to the eye that the degenerating process was at once arrested and in a week the child was sufficiently recovered to return home. When seen six months later it was difficult to detect which had been the affected eye. As an example of the utility of peritomy in the relief of tension the following case was cited. A woman had lost the right eye from irido-cyclitis accompanied by increased tension which an iridectomy by a skilled ophthalmic surgeon had failed to arrest. Subsequently the eye was excised. She had an insuperable dread of an iridectomy in the other eye which was beginning to suffer in like manner, with the tension + 2, vision reduced to Jaeger 14, and a partially inactive pupil. Peritomy was performed on Sept. 26th, 1900. On Oct. 5th there had been steady improvement: vision Jaeger 8, Tension + ½. On Nov. 26th vision had fallen off. Tension was normal. Later still vision was reduced to perception of large objects. In this case peritomy checked for a time the disorganising process and reduced tension but did not permanently arrest the mischief.—The PRESIDENT referred to a paper and cases by the late Mr. George Critchett who usually removed a strip of conjunctiva about one-sixth of an inch wide down to the sclerotic in cases of pannus and vascular ulcer, without any bad results. He (the President) would now add episcleritis to the list.—Mr. MARCUS GUNN recommended that the conjunctiva should be divided as near the margin of the cornea as possible and then separated from the sclerotic by a few snips of the scissors.—Dr. CARTWRIGHT thought the explanation offered could not apply to episcleritis, scleritis, or high tension. In such cases the treatment was more of the nature of counter-irritation.—Mr. H. SECKER WALKER (Leeds) spoke of the good results obtained in interstitial keratitis. There was no great change produced in iritis and the method was probably of least value in episcleritis. No cicatrix was visible after peritomy.—Dr. JOHN HERN (Darlington) preferred curetting the conjunctival incision down to the sclera; he had obtained excellent results in interstitial keratitis and much benefit in episcleritis. The operation was undeservedly neglected.—Mr. JOHNSON TAYLOR and Mr. J. H. CROPPER also spoke.

Dr. J. F. BULLAR described a case of Membranous Conjunctivitis. The patient was a child who was born on Oct. 28th, 1900, and who was quite well when seen on Nov. 5th. On Nov. 7th the right eye was noticed to be affected and was treated by the nurse until Nov. 11th, when it became much worse, and a medical man was called in. When Dr. Bullar first saw it the lids were very much swollen, a yellowish membrane was present, which stripped off very easily with scarcely any bleeding. Nitrate of silver, two grains to the ounce, was used. The eye got better and the chemosis subsided, leaving a small central ulcer of the cornea. There was difficulty in sucking. Membrane was also noticed on the right side of the nose and fauces which extended. The child died in convulsions on Nov. 20th. There was no diphtheria in the neighbourhood and the membrane was not examined.—Mr. SYDNEY STEPHENSON made it a rule to use antitoxin on first seeing a case without waiting to verify the diagnosis bacteriologically.—The PRESIDENT said that Mr. Tweedy, who had had great experience in these cases, looked upon quinine as being a specific in diphtherial conjunctivitis, and he had himself seen great benefit from its use.—Mr. W. LANG thought that Mr. Tweedy's observations had been made long before antitoxin was known, and he thought it should not go forth as the opinion of the society that this view was still held.—Mr. C. DEVEREUX MARSHALL said he should not think of waiting to conduct a bacteriological examination (though this would not take long), but in a case of supposed diphtherial conjunctivitis he should at once inject antitoxin, which in no case could do harm, and in a true case the sooner it was given the better. With regard to the local application of quinine he strongly approved of it, though he had not seen its use followed by such excellent results as those obtained by Mr. Tweedy.

Two papers by Major H. HERBERT, I.M.S., were taken as read. The first was on Hypertrophy and Ossification of the Tarsus. A male Hindu, aged 33 years, had considerable enlargement of both upper tarsi, especially towards the outer ends, without much thickening. On the left side it was fibrous, but on the right there was considerable bone formation, which was fairly dense. A piece of necrosed bone exposed on the conjunctival surface of the lid kept up irritation, for which the patient sought relief.—The other paper was a note on the Surface of the Normal Cornea. Over 30 normal corneæ were examined in Bombay, all of which showed more or less epithelial defect when the surface was partially dried by exposure, the upper lid being elevated from the eyeball, focal illumination and the corneal bi-convex lens being used. In some cases there were only one or two pits seen, in others many closely-set pits, in others grooves added, and in others one or more large depressed patches.

[1] Gazette Medicale, 1862, Nos. 4, 6, 8, 10, 12, and 14.

The depressions were all sharply defined and their floors stippled owing to the irregular surface presented by the deeper epithelial cells. They usually began to appear within half or one minute, sometimes within a few seconds, but were generally not fully shown for two or three minutes. Repeated exposures and the instillation of cocaine sometimes caused an extensive irregular superficial exfoliation of the epithelium, which partly obscured and altered the original picture. The patients examined were all native, mostly adults. Slight conjunctivitis and localised keratitis tended to exaggerate these physiological defects. In superficial punctate keratitis some of the points stained with fluorescine appeared depressed on drying and had to be distinguished from the physiological pits above described, possibly to be seen on the same cornea.

The following cases and card specimens were shown:—

Mr. G. HARTRIDGE: (1) A Capsulotomy Knife; and (2) a case of Central Choroiditis simulating a Neoplasm which had been watched for 14 years.

Mr. H. SECKER WALKER: A Diagrammatic Model to assist in the Teaching of Refraction.

Mr. J. H. TOMLINSON: A New Colour Perimeter.

Dr. J. H. PARSONS: Coloboma of the Optic Nerve.

Dr. G. W. ROLL: Immobility of the Pupils with Fundus Changes.

Dr. P. FLEMMING: Section showing Dilated Nerve Fibres in the Retina.

Mr. R. W. DOYNE: A Simple Form of Ophthalmoscope.

Mr. WORK DODD: A case of High Hypermetropia.

CHELSEA CLINICAL SOCIETY.

Discussion on the Clinical and Pathological Relations of the Chronic Rheumatic and Rheumatoid Affections to Acute Rheumatism.

THE adjourned meeting of this society for their annual Clinical Debate was held on March 19th, at the Jenner Institute of Preventive Medicine, the President, Dr. WILLIAM EWART, being in the chair.

A paper entitled "Some Remarks on the Relationship between Acute Infective Rheumatism and Rheumatoid Arthritis," by Dr. G. A. BANNATYNE of Bath, was read. The communication began by contrasting the ordinary symptoms of a case of acute infective rheumatism with those in a case of rheumatoid arthritis. Once seen the acute forms of these diseases could, he said, never be confused. What was to be said about those rare cases which commenced apparently as moderately acute attacks of infective rheumatism, but which refused to respond to treatment and which as time passed gradually became more and more distinctive of rheumatoid arthritis? How were those cases to be classed which after several attacks of acute infective rheumatism developed rheumatoid disease? Were they mixed infections or did the rheumatoid infection become ingrafted upon the infected rheumatism? Dr. Bannatyne's theory was that those cases were instances of rheumatoid arthritis ingrafted on an attack of acute infective rheumatism. Statistics showed that rheumatoid arthritis frequently followed other diseases, but did not show that it followed acute infective rheumatism with much greater frequency than it did any other joint trouble. The chronic variety of rheumatoid arthritis followed altogether a different course to the acute forms and might well be secondary degenerations following on any acute joint trouble. Dr. A. S. Wohlman and he had found a micro-organism in one form of rheumatoid arthritis, but the micro-organism found by Dr. F. J. Poynton and Dr. A. Paine differed from that one in character and in life-history. Dr. Bannatyne concluded that the two diseases in the acute stages were quite separate and distinct. The hereditary tendency to joint troubles was marked in rheumatoid diseases, but it might be that it was gout and not rheumatism that was inherited.

Dr. R. T. HEWLETT said that in the only case of acute infective rheumatism in which he had examined the fluid he had isolated a bacillus which resembled the Achalme bacillus. He thought that the organism which Dr. F. R. Blaxall had isolated was quite distinct from that found by Dr. Poynton and Dr. Paine. It had to be remembered that identity of clinical symptoms and nearly identical pathological lesions did not necessarily prove identity in etiology. The toxæmias had a great predilection for the joints and arthritis was seen in scarlet fever, influenza, dysentery, yaws, verruga peruana, and Malta fever. He agreed with Dr. Bannatyne that the rheumatoid condition was grafted on to the rheumatic one.

Mr. W. ARBUTHNOT LANE said that he found that the term "chronic rheumatic affection" of a joint was used to comprise the conditions of joints in which there was pain of a rheumatic character unaccompanied by any marked change in the anatomy of the joints except, perhaps, some effusion into them. The most marked feature of chronic rheumatic affections of the joints was pain, often variable in amount and influenced greatly by the weather. If this were the case there were innumerable traumatic or mechanical conditions which exhibited precisely those symptoms which he saw usually diagnosed and recognised as chronic rheumatism or, if there were distinct joint changes, as rheumatoid arthritis. The student was taught, and perhaps was still taught, that rheumatoid arthritis or osteo-arthritis denoted a disease of a joint which commenced in the articular cartilage evidenced first by a change in it and later by its removal. But he (Mr. Lane) believed that these cases comprised a large number of conditions or variations in the anatomy of the skeleton produced by traumatism. These conditions had no relation whatever to acute rheumatism, nor were they, as far as he knew, related to any chronic rheumatic affection, while, on the other hand, their causation was most clear and precise, being simply mechanical. He regarded the terms "chronic rheumatic" and "rheumatoid" affections, apart from true rheumatoid arthritis, as unmeaning terms and used too often as useful cloaks for ignorance.

Mr. WILLIAM ARMSTRONG (Buxton) read a paper which dealt more especially with the Etiology of Chronic Rheumatic and Rheumatoid Affections. He could not accept the conclusions of Dr. Poynton and Dr. Paine that micro-organisms were the sole factors in the causation. The man who whenever he got his feet or clothes damp felt stiffness behind the angle of the jaw, followed, if that was not arrested, by tonsillitis and rheumatism, could not be looked upon, in the opinion of Mr. Armstrong, as suffering from the effects of a specific germ. The fact that there was a specific form of acute rheumatism did not justify them in putting all acute rheumatic cases down to the credit of that factor. Dr. Poynton and Dr. Paine did not say whether the cases were acute or chronic in which they had found the diplococcus. He had rarely been able to connect chronic manifestations of rheumatism with the acute form of the disease. It had been suggested by Dr. W. M. Ord that in addition to the toxic factor there was a neural one caused by irritation conveyed to the spinal centres through the agency of the nerves of the prostatic urethra in cases of gonorrhœal rheumatism. He was convinced that one form of rheumatoid arthritis did sometimes follow acute rheumatism, but he had never seen it come on unless the patient had been much debilitated or worried. Although he had gone into the matter most closely he could not confirm Dr. Hawthorne's observation that there was in any considerable number of rheumatoid patients a family history of rheumatism. He did not think that in Mr. N. C. Macnamara's cases the result was due to direct infection of the joints by means of absorption of morbid material. Certain tracts in the spinal cord were greatly influenced by utero-ovarian irritation, and many cases were on record where arthritis lingered on until this source of irritation was eliminated. Mr. Armstrong quoted cases to show that other toxins were capable of causing arthritis. It seemed to him probable that while the more serious joint lesions, such as Charcot's, were really due to organic lesions in the cord the slighter changes causing arthritis were probably only functional. The bacillus discovered by Dr. Bannatyne, Dr. Wohlman, and Dr. Blaxall in rheumatoid joints had not as yet reproduced arthritis on injection, although a somewhat similar micro-organism was alleged to have done so in the hands of German investigators. In conclusion he submitted that it was certainly improbable that all rheumatoid arthritis was due to a bacterial factor; that it seemed likely that the disease was a dystrophy dependent either upon central nerve disturbance or upon reflex irritation transmitted to the joint centres from some other organ; that the irritation was very apt to be directed towards any joint already affected by rheumatism or gout; and that acute rheumatism was occasionally

followed by a form of rheumatoid arthritis, but as far as present knowledge went there was no common origin of acute infective rheumatism and of the more chronic joint conditions which they were discussing.

Dr. ALEXANDER PAINE said that if the symptoms spoken of by Mr. Armstrong were rheumatic in the sense of acute rheumatism it was quite consistent that such symptoms might be due not necessarily to the prevalence of the organism but of its toxins. He could not speak definitely on the toxins because very little was known of the organism; it was not until the toxins had been isolated that it would be possible to give any definite opinion and to say what symptoms were actually due irritatively to the presence of the organism and what was due to the action of the toxins. He reiterated that it was possible that many of the symptoms that came on even before the sore-throat might be ascribed to the absorption of toxins.

Dr. BLANC (Aix-les-Bains) said that some people were of opinion that rheumatoid arthritis arose from special toxins or from particular foods, but it seemed to him that it came from other troubles which they did not know of. At any rate, it was a disease of long standing, and it was difficult to reconcile that with a toxic condition. There was a special kind of chronic rheumatism which had nothing to do with rheumatoid arthritis; it certainly very often might be a consequence of true rheumatic fever, but just as often rheumatic fever was a different disease.

Dr. ARCHIBALD GARROD, in summing up the discussion, briefly passed in review the remarks which had been made by the different speakers in the debate. In his opinion the diplococcus of Dr. Poynton and Dr. Paine actually brought them to the pathological cause of acute rheumatism and it served as a criterion to differentiate acute rheumatism from other affections. Dr. C. O. Hawthorne had taken up a judicial standpoint and had urged that we must not dismiss as worthless the opinion that rheumatoid arthritis was a continuation of rheumatic fever because it did not happen to be the prevalent opinion at the present moment. Though Mr. Arbuthnot Lane had spoken on the question of traumatism he understood that Mr. Lane himself differentiated quite distinctly the more acute forms of multiple rheumatoid arthritis. They were only beginning to learn something about the conditions grouped together under the term "rheumatoid arthritis."

Sir DYCE DUCKWORTH then delivered the closing address of the debate. He said that he must be a bold man who in the first year of the Twentieth Century attempted to find a new niche in nosology for the condition recognised as rheumatoid arthritis. The difficulty of the subject was recognised by all and no less the confusion that still existed respecting the varieties of arthritis which led to deformity. Increasing knowledge and exactness compelled them to recognise that by far the greater number of "pains" met with were not truly rheumatic but owned a different pathogeny. For an accurate conception of the conditions recognised as true rheumatoid or osteo-arthritis it was necessary to state concisely what was known respecting true rheumatism and its influence on the joints, and also what was known of the effects of gouty influences on these structures. The doctrines of the diatheses were commonly believed to be buried in old books and regarded as the mediæval lucubrations of pedantic physicians who groped in the dark days before microscopes and more precise clinical methods were introduced. Such was not his view. He had learnt to satisfy himself of the truth and importance of some of those doctrines and was therefore in accord with the teaching of the French school in respect of a specific diathetic habit of body which was specially vulnerable to such peccant matters as generate rheumatism, gout, and some other ailments, and prone to react specifically in respect of the component structures of the joints. Exostoses were specially significant in gouty arthritis and many truly gouty deformities of joints were by themselves indistinguishable from those induced by rheumatoid arthritis. Occasionally an exact diagnosis was impossible, but in rheumatoid arthritis the occurrence of true ankylosis was not found. His own experience of subcutaneous nodules in rheumatoid arthritis did not enable him to agree with Dr. Hawthorne as to the frequency of their occurrence, but the fact had to be accepted, and it was a connecting link with the so-called true rheumatism. He was strongly disposed to regard the occurrence of nodules even without a history of rheumatic or gouty antecedents as indicative of the so-called arthritic habit of body. In those instances of sequelæ in the joints arising out of cases of acute infective rheumatism the primary disorder failed to pass away and a lingering arthritis remained. In those cases the disorder had alighted on a strumous soil and the blended diathesis was responsible for the result. Many of those cases were regarded as examples of rheumatoid arthritis and the exact diagnosis was not always easy because infective rheumatism might and did sometimes open the way for later developments of rheumatoid arthritis, and, as they had just seen, the same deforming arthritis might eventuate after attacks of true articular gout with no specific rheumatic antecedents. It was difficult to deny the possibility of a blended condition of true infective rheumatism and true gout. The study of rheumatoid arthritis in its clinical features and its morbid anatomy indicated a marked variety of conditions. The specificity or unity of rheumatoid arthritis was held by some observers to be open to grave doubt. Dr. Derwent Parker had declared that all examples of the disease were solely the outcome either of true rheumatism or of true gout. He entertained no doubt that gouty arthritis was capable of inducing most of the changes that were to be witnessed in a well-marked example of rheumatoid arthritis, but the two conditions were not identical: the process leading up to the one was very different from that inducing the other. It was not a common event for true rheumatism to lead to the specific disorder recognised as rheumatoid arthritis, and thus his experience refuted the dogmatic feeling of Dr. Derwent Parker on those points. Some evidence had been afforded by Dr. Bannatyne in support of the contention of the dependence of rheumatoid arthritis proper on a toxæmic invasion and had already led to measures of treatment conceived to be appropriate. He did not think that up to the present time a case had been made out for a constant and specific toxic element, bacillary or otherwise, in the pathogeny of all cases of rheumatoid arthritis, and such specific element, if such there were, was therefore yet to be sought. They had to take note of neuro-arthritic conditions in relation to the pathogeny of rheumatoid arthritis and the occasional association therewith of cardiac disorders. In respect of the term "rheumatoid arthritis" it was unjustifiable to state definitely that there was any unity of pathogeny or to cite any uniform or definite cause when considering all examples of the disease.

EDINBURGH OBSTETRICAL SOCIETY.

Deciduoma Malignum.—Variæ.

A MEETING of this society was held on March 13th, Dr. R. MILNE MURRAY, the President, being in the chair.

Dr. ALEXANDER BRUCE and Dr. ELSIE INGLIS communicated a paper on a case of Hydatid Mole with death six months afterwards from Cerebral Hæmorrhage due to Deciduoma Malignum. The patient was at first under the care of Dr. Elsie Inglis, who in January, 1899, removed a hydatid mole; the patient made a good recovery. The menses returned and were normal and the patient appeared to be in good health. Six months afterwards, in June, she showed symptoms of cerebral hæmorrhage and was removed to Dr. Bruce's ward in the infirmary. She died three days after admission. At the post-mortem examination a hæmorrhage was found in the left occipital lobe, small hæmorrhagic nodules were scattered throughout the lungs, and in the uterus two similar nodules were embedded in the muscular tissue. Microscopical sections of all these structures were made and all showed the structure of so-called deciduoma malignum—viz., masses of protoplasm with numerous nuclei and groups of small epithelial-looking cells containing a single nucleus, which in the uterine sections were in connexion with the villi. This was the fourth reported case in which metastasis had occurred in the brain, and it was also interesting because there were no local uterine symptoms, the patient appearing to be in good health until the cerebral hæmorrhage occurred. The paper was illustrated by micro-photographs of sections thrown on the screen by a projection apparatus.

Dr. R. C. BUIST (Dundee) gave notes of a similar case. The patient had suffered from an almost continuous metrorrhagia following a miscarriage at the third month. The uterus was curetted and the anterior wall was found to be thickened; the cavity was quite smooth. The bleeding returned in three weeks and a tumour rapidly formed in

the right iliac region. Three months afterwards the tumour was of the size of a child's head, and was removed by abdominal section together with the uterus which was found to have increased considerably in size. Three weeks after this operation, lung symptoms supervened, with rapid breathing and pain, and friction could be heard on deep inspiration. The patient died from exhaustion about five months after the first operation. At the necropsy many organs were found to be affected, including the lungs, heart, liver, pancreas, and the supra-renal body. The specimens all showed hæmorrhagic nodules. Dr. Buist showed these and also microscopical specimens on the screen; their special feature was an entire absence of multinucleated protoplasmic masses. He considered that these cases of deciduoma malignum were not all of one type.—Dr. F. W. N. HAULTAIN said that Dr. Bruce's case very fully coincided with one which he had himself examined and treated successfully two and a half years ago by vaginal hysterectomy. Lantern slides were shown of the microscopical characters of Dr. Haultain's case, which demonstrated the two varieties of cellular elements (namely, individual cells with a clear cell-substance), the nuclei of which showed reticulation of the chromatin and large multi-nucleated protoplasmic masses, the protoplasm of which was granular in character with the nuclei deeply stained. Commenting on the pathology and histogenesis of these growths he stated that there were three theories: (1) that it was a sarcoma independent of pregnancy but modified by that condition, this being the view almost unanimously upheld in a recent discussion on the subject at the Obstetrical Society of London; (2) that it was a malignant change occurring in the decidual cells and was thus a maternal sarcoma entirely due to pregnancy, this being the original theory propounded by Sänger from which the term "deciduoma malignum" emanated; and (3) that it was the result of active proliferation of the epithelial covering of the chorionic villi, and hence was of the nature of an epithelioma—to this theory the great majority of recent German observers adhered, and Dr. Haultain strongly supported it. The disease was a rare one, occurring only once in about 2000 pregnancies, and yet fully 50 per cent. of all cases of deciduoma followed the expulsion of a hydatid mole. The upholders of the simple sarcoma theory based their views chiefly on the following points: that in some cases no distinct history of previous pregnancy was present, also that the cells tended to travel by the blood-vessels, and that similar structures had been noticed in sarcoma of the testicle. These arguments might be met by the fact that no case had yet been described outside the child-bearing period of life, and though pregnancy could not be proved, yet neither could the reverse be proved. Everything tended to point to an epithelial character, and the term "deciduoma" might be replaced by "chorio-epithelioma," the term "syncytioma" being too exclusive. The evidence of metastases in the lung which were evidently inactive had already been demonstrated by von Franque and others. Metastases had also been noticed in other structures, where after the removal of the original uterine growth a complete cure had resulted.—Dr. D. BERRY HART also made some remarks.—Dr. BRUCE in his reply stated that it was perfectly clear that these tumours were not sarcomatous; they were derived from an epithelial layer, and the term "chorio-epithelioma" was the more accurate designation.

Dr. S. MACVIE gave short notes of a case of Spontaneous Rupture of a Varicose Vein of the Lower Extremity at the seventh month of pregnancy, with expulsion of a dead fœtus 28 days afterwards.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF MEDICINE.

Doses of Arsenical Preparations.

A MEETING of this section was held on March 8th, Dr. WALTER SMITH being in the chair.

Dr. NINIAN FALKINER read a paper on the Doses of the Arsenium Compounds of the British Pharmacopœia. He said that Dr. R. W. MacKenna, clinical assistant to the Liverpool Skin Hospital, had suggested to him the investigation of the ratio of the doses of the official compounds of arsenium to the percentage amount of arsenium in each compound. The following table summarises his results.

—	Col. 1.	Col. 2.	Col. 3.	Col. 4.	Col. 5.
—	—	—	—	—	1·6 minims Fowler's solution.
As_4O_6... ...	75·77	4·5	0·016	0·016	1·6 ,, De Valangin's ,,
Na_2HAsO_4..	40·03	2·4	0·025	0·030	3·0 ,, Pearson's ,,
$Fe_2(AsO_4)_2 4H_2O$	28·96	1·6	0·052	0·045	—
AsI_3	16·5	1·0	0·052	0·072	7·2 ,, Donovan's ,,

Col. 1.—The percentage of arsenium in each compound.

Col. 2.—The approximate strength in arsenium of equal weights of (*a*) As_4O_6, (*b*) $Na_2H\ AsO_4$, (*c*) $Fe_2(AsO_4)_2 4H_2O$, (*d*) AsI_3.

Col. 3.—The minimum dose of each compound as given in British Pharmacopœia expressed in decimal parts of a grain.

Col. 4.—The minimum dose that should be given of each compound, calculated from the minimum dose of As_4O_6 (as laid down in the British Pharmacopœia of 1898), on the basis of the percentage of As that the compound contains.

Col. 5.—The number of minims of the official liquors that contain each a minimum dose of the compound as calculated in Col. 4.

Two points arose, however, in the consideration of the dosology of the arsenium compounds: (1) the question of solubility and (2) the relation between the chemical constitution of a compound and its pharmacological activity. The first point might arise with reference to the dose of $Fe_2(AsO_4)_2 4H_2O$, but the second point did not appear to have influenced the calculation of the dose of $Na_2H\ AsO_4$, as its dose was less than it ought to be if calculated on its percentage of arsenium; while, according to the view that unsaturated compounds were more physiologically active than saturated, the arsenious compounds should be more active than the arsenic. The table brought out the fact strikingly that weight for weight As_4O_6 was about four and a half times as strong as AsI_3 in the quantity of arsenium that it contained, which might account for the tolerance which had been observed by Mr. MacKenna and other practitioners in the use of Donovan's solution.

Dr. WALTER SMITH observed that there was a great gap in the case of arsenic between its reputed medicinal uses and its known physiological action, as was also the case with respect to mercury. Amongst skin diseases remarkably influenced by arsenic (and he admitted that its use was empirical) he would put at the head of the list pemphigus; then that most distressing complaint, lichen planus; and in the third and last place he would put psoriasis. He directed attention to the curious contrast that there was in their knowledge of the physiological action of inorganic bodies as a group as compared with organic. With regard to chronic arsenical poisoning, he had often given one-thirtieth of a grain of white arsenic per diem, which came to two grains per month, or from 20 to 30 grains in a year, yet he had never produced chronic poisoning after using it for months. Dr. Falkiner had under-estimated the amount when he mentioned one quarter of a grain per gallon as found in beer in England, for up to one grain per gallon had been found.

Sir GEORGE DUFFEY said that Dr. Falkiner's calculation was based solely on the element arsenium, but it was recognised, he thought, by most pharmacologists that arsenious acid and its salts were much more poisonous than arsenic acid and its salts. The element, arsenium, was not to be taken so much into account as the nature of the salt employed.

Dr. CRAIG referred to a case of pernicious anæmia, which he reported some years ago, which was treated by 15-minim doses of Fowler's solution thrice daily. The patient presented himself a couple of months ago suffering from bronchitis, and he had taken large quantities of arsenic during all that time, having got the prescription made up regularly by a druggist.

EPIDEMIOLOGICAL SOCIETY.—A meeting of this society was held on March 15th, Dr. Patrick Manson, the President, being in the chair.—The secretary read a paper on Enteric Fever Mortality in Copenhagen contributed by Dr. Schierbeck, Professor in the Danish University. The writer stated that the records of mortality were available for the purpose so far back as the year 1829, and he gave the

number of deaths presumably from enteric fever for each year down to 1899 numerically and graphically, which showed a steady and progressive decline, beginning about the year 1840. If the oscillations were "smoothed" by the usual process the progressive character of the decline became very evident, proving that some factor had been at work since 1841, but how long previously it was impossible to say, the records for the 10 years preceding being less trustworthy. What this factor, or probably these factors, might be could not be determined. For the last 40 years the enteric fever mortality in Copenhagen had compared favourably with those of most European cities. The first public water-supply was opened in 1860 and the sewerage works were commenced at the same time, when the ordinary method of comparing the mean death-rate of the 20 years preceding—viz., 94 per 100,000—with that of the 20 years following—viz., 41 per 100,000—would appear to show a great reduction; but it must be noted that these events occurred at a time when the mortality was already falling. He would not say that the water-supply and sewerage had no influence, but that it was not so evident as appeared at first sight.—Dr. Christopher Childs then read a paper by Dr. J. T. R. Davison on Soil and Typhoid Fever in which he aimed at showing that the conversion of Buenos Ayres from one of the most unhealthy cities in the world in 1872 to one of the healthiest at the present time was owing not directly to the introduction of a pure water-supply and an excellent system of sewerage, but to the effects produced by these improvements on the condition of the soil. At the former date the soil was riddled with cesspits, the population drank water from shallow wells, rainwater stored in underground tanks, or water taken from the river, and the place was subject to frequent inundations. Now seven-tenths of the population were provided with pure water and their houses were connected with the sewers, though the growth of the city was so rapid that it could not be overtaken by these works, and of the 788,211 inhabitants, 559,830 were within and 228,381 were without the area covered by these sanitary improvements. During the few years between 1872, when registration first became trustworthy, and the commencement of the works the enteric fever mortality had been 0·6 per 1000 and it was latterly but 0·3, yet a comparison year by year of the successive extensions of the water-supply and connexions with the sewers with the varying mortality from typhoid fever did not show any direct relation. He believed that the typhoid bacillus, being aerobic, throve in polluted pervious soils, but could not live in impervious clays, such as those on which the city was built, or in the concentrated sewage in cesspits, and that though it was often water-borne it oftener rose with the movements of the air from the surface soil during variations of atmospheric pressure and the warmth of houses at night. He considered that the chief cause of the reduced mortality was the energetic action of the authorities in the cleaning, ventilation, and general improvement of the huge lodging-houses or tenements known as "conventillos," the prevention of overcrowding, and above all the paving and cleansing of the "patios" or courts around which they were built and which formerly presented an almost incredible surface pollution, together with the abolition of cesspits.—Dr. H. F. Parsons criticised both papers, commenting on the ambiguity of the term "typhus" as used by continental writers.—Mr. Shirley Murphy did not consider Dr. Schierbeck's argument as to the water conclusive, as he had not stated when and to what extent the new supply came into operation. As to Buenos Ayres the effect of the sanitary improvements was not to be expected at once, for the purification of a soil saturated with filth would necessarily be a work of time, and the great improvement in the health of the city after the lapse of 10 years was rightly ascribed to the measures which Dr. Davison considered inoperative.—Dr. Willoughby said that prior to 1860 the population of Copenhagen drew their water from shallow city wells, but in that year a public supply was opened, partly from wells and partly from the Damhus Lake. Since 1890 the supply had been derived wholly from deep chalk wells, occasionally supplemented to some extent from the Sönder Lake. He could not say more on the sewerage than that the sewers begun in 1860 received waste waters and rain only, for as late as 1891 there were very few water-closets. He thought that the apparent reduction in the mortality subsequently to 1845 was probably explicable by the diagnosis of enteric from other fevers, but that the reductions after 1860 and again after 1887 were the results of the substitution first of a fair, and next of an excellent, water-supply for the polluted wells. As to Buenos Ayres, he entirely agreed with the views expressed by Mr. Shirley Murphy.—Dr. Childs indicated a number of points on which further information and explanation were necessary before Dr. Davison's arguments could be even seriously considered and he was quite unable to accept his assumptions with regard to the life-history of pathogenic microbes.—Dr. Newsholme and Major Macpherson, R.A.M.C., also took part in the discussion.

CLINICAL SOCIETY OF MANCHESTER.—A meeting of this society was held on March 19th, Mr. F. A. Southam, the President, being in the chair.—Mr. T. E. Stanmore Bishop introduced a discussion on Post-partum Hæmorrhage and its Treatment. He drew attention to the present teaching as laid down in the leading text-books on this subject and sketched shortly a case of the kind treated according to accepted ideas and its probable result. Mr. Bishop discussed the theory of causation and showed that all causes were divisible into two categories. He strongly advocated external abdominal aortic compression and gave reasons for the choice of this method.—Dr. E. Vipont Brown said that the description of post-partum hæmorrhage given by Mr. Stanmore Bishop was not imaginative, as Dr. Fothergill had suggested, but a terribly realistic picture of an experience with which many general practitioners were only too familiar. The reason why Dr. Lea and Dr. Fothergill thought these cases so extremely rare was doubtless that there was never time to send for the consultant. Long before the services of a consultant could be obtained the crisis was over for better or for worse. It was known that when physically tired and worn out a strong psychical stimulant would sometimes enable a person to do a great deal more work without apparent fatigue, showing that the exhaustion was nervous rather than muscular. And so he thought the "whipping" (as Mr. Bishop called it) to which the womb was subjected in what had hitherto been the ordinary treatment in cases of post-partum hæmorrhage might act as a strong nerve stimulant and was not always so useless as Mr. Bishop's paper might lead them to suppose. Indeed, it was known from experience that it did sometimes prove effective. His own practice had hitherto always been in severe cases to insert one hand into the womb and to knead with the other hand on the abdominal wall. Imitation, however, was the sincerest form of flattery, and the next time he had to deal with a severe case of this kind he would undoubtedly place the foot of the bed upon the dressing-table and compress the abdominal aorta.—Dr. Leslie Jones said that he had never seen a fatal case of post-partum hæmorrhage. In the fatal case described by Mr. Bishop he thought almost everything that was wrong had been done, and what was right had been done at the wrong time. The uterus was not accustomed to, and did not understand, rough treatment by pounding and squeezing from outside; what it did understand, and would readily respond to, was a stimulus applied to its inside similar to that recently supplied by the fœtus in the expulsion of which its efforts had just been engaged—efforts which it was quite able and willing to resume if suitably reminded and encouraged. He strongly advocated the method which he had for nearly 30 years adopted. The method was this: a full dose of opium having been given—nowadays morphia: subcutaneously—the left hand was introduced into the uterus and the fist closed; then the right hand from without seized the closed fist in the womb, and in doing so must necessarily take in its grasp the uterine wall in its full extent behind as well as above and in front, and this no matter how relaxed and eluding the uterus might be; then the right hand pressed the closed fist and with it the uterus downwards into the pelvis, when hæmorrhage, if there still was any, immediately ceased. The uterus would soon begin to contract and would endeavour to expel the fist which, far from being withdrawn, was slightly pressed upwards against the force applied by the right hand and was only removed when it had been compulsorily expelled. Then was the time for ergot and such external stimulating agencies as ice—cold applied to the cervix or fundus—but the chief thing was to keep the uterus, now firmly contracted, grasped in both hands, and pressed into the pelvic cavity. At the same time that this was being done someone near should raise the pelvis on three or four pillows, and in cases where the hæmorrhage had been extreme and exhaustion alarming a large quantity of salted water should be injected into the bowel. Then,

too, strychnine was most valuable. Compression of the aorta as a means of controlling hæmorrhage was very old and had been deservedly abandoned. Under the circumstances in which it might be considered desirable it was useless and entailed loss of precious time when every moment was of importance. The danger, too, of compressing the vena cava should not be so lightly set aside. If the aorta were effectually compressed under the conditions which must necessarily obtain it would be next to impossible to avoid compressing the cava at the same time. It was superfluous to dwell on the danger of doing so. He had no experience of, and never had necessity to resort to, any of the numerous methods described by Mr. Bishop and which had been adopted in the case that had been depicted, and he referred to a well-nigh fatal case of post-partum hæmorrhage where, had he dallied with attempts to compress an empty aorta, the uterus would never have awakened from the refreshing sleep Mr. Bishop so strongly pleaded for it, nor would the patient. While admiring the ingenuity of Mr. Bishop's theorems and acknowledging the soundness of some of his propositions he had heard nothing that would induce him to abandon a method which through a long series of years had never failed him.—The following gentlemen also took part in the discussion: Dr. A. W. W. Lea, Dr. W. E. Fothergill, Mr. R. D. Cran, Mr. S. Bagley, Dr. G. A. Junk, and Mr. J. E. Harburn.

NORTHUMBERLAND AND DURHAM MEDICAL SOCIETY.—A meeting of this society was held on March 14th, Mr. Rutherford Morison, the President, being in the chair.—Dr. H. P. Bennett exhibited in the dark room a case of Concussion Injury of the Eye (a hole in the macula) and expressed the opinion that the hole had been produced by contre-coup.—Dr. J. Limont brought forward a case of Generalised Lichen Planus. The patient was a woman, aged 52 years, showing lichen patches upon the forearms and legs and discrete papules over the back and body surface generally, especially over pressure sites, such as waistbands and garters. The duration of the condition had been two months.—Dr. Limont also showed a case of Erythema, the patient being a woman, aged 38 years, who had suffered from various degrees of erythema for 18 months. Her condition began with sore throat, febrile disturbance, and gastro-intestinal symptoms. She now exhibited red patches, papules (the tuberculate form), urticarial weals, in places serous effusion producing vesicles, and in places purpuric patches. He thought the case was due to intestinal disorder and absorption.—Dr. Oliver and the President described a case of Panhysterectomy at the eighth month of pregnancy for Cancer of the Cervix. The patient was 39 years of age and was the mother of nine children. She had suffered from uterine hæmorrhage since the birth of her last child two years previously. For 18 months the hæmorrhage had been increasing in severity. She presented herself pregnant at the eighth month when carcinoma of the cervix was recognised, and the child being viable delivery by the abdomen and total hysterectomy were advocated in preference to the risk of natural labour at full term. Mother and child had both done well and were now shown.—Dr. A. M. Martin brought forward two children the subjects of Unilateral Congenital Dislocation of the Hip. Both labours were normal. The condition had only been recognised when the children commenced to walk. In one patient, aged six years, an open operation by Lorenz's method had been performed. Previous attempts at bloodless reduction had been futile. At the operation the head of the femur was found on the dorsum ilii, the capsule was long, there was no ligamentum teres, there was a good acetabulum, the head of the bone was normal and was easily replaced on strongly abducting and inverting the hip, the wound was sutured, and the limb was kept in the above position with plaster-of-Paris.—Dr. G. R. Murray showed a case of Musical Mitral Systolic Murmur. The patient was a boy who had a strong rheumatic history and exhibited outward displacement of the apex external to which was heard a systolic murmur having a decided musical character. Although heard over the whole præcordium, the point of maximum intensity was as above described and the murmur was therefore considered to be of mitral origin. Dr. Murray remarked upon the rarity of this murmur and stated that musical murmurs were usually aortic in origin and diastolic in time.—Dr. Oliver concurred in this view.—Dr. Beattie, from observation on a long series of musical heart murmurs, expressed his belief that they more frequently resulted from dilatation than from endocarditis, requiring for their production thin membranous cusps but slightly separated, and still capable of trilling upon one another by imperfect contact. They were always regurgitant, never obstructive—more frequently systolic and of tricuspid or mitral origin than diastolic and of aortic origin. By far the most frequent musical murmur was one of tricuspid regurgitation and quite often secondary to mitral stenosis. Their musical character was usually temporary, being abolished by either further dilatation of the orifice or by recovered compensation and restored perfect closure.—Dr. I. G. Modlin brought forward a child, aged nine years, who had been operated upon for Acute Intestinal Obstruction. The child was now perfectly well and on ordinary diet.—Dr. C. H. Bryant brought forward a girl, aged 14 years, who for five months had been the subject of Increasing Double Ptosis which was at first considered to be hysterical; lately, however, external ophthalmoplegia had been added in the distribution of both third nerves and the right sixth nerve, but without any iridoplegia. There were also double facial paresis of both upper and lower divisions. There were no nystagmus, no dysphagia, no vomiting, and no headache; the optic discs were normal.—Dr. R. P. Ranken Lyle read a short paper on Placenta Prævia.—A discussion followed, which was taken part in by Dr. Calthrop, Dr. Murphy, Dr. Stuart, and Dr. Peart.

GLASGOW OBSTETRICAL AND GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on March 13th, Dr. Robert Jardine, the President, being in the chair.—The President read notes on two cases of Measles in the Puerperal Woman occurring in the Glasgow Maternity Hospital. The first patient was 30 years of age and a primipara. The puerperium was normal till the seventh day when her temperature rose in the evening to 101° F., and by the eleventh day it was 103° and 104°. Two days later a copious measles rash appeared and the temperature fell to 99°. Until the rash appeared the cause of the febrile disturbance could not be determined, there being no coryza; septic absorption was, however, excluded. The source of infection was traced to the house in which the patient had lodged before admission, the period of incubation being 14 days. She was removed to the Fever Hospital, where she made a good recovery. The after-history of the child was unknown. The other patient was 28 years of age and in her second confinement. The measles rash was first appearing when this patient was admitted to hospital early in the first stage of labour. Her temperature was 99°. Labour lasted nine and a half hours and was normal. Next day the rash of measles was well marked and on the third day the patient was removed to the Fever Hospital and did well. The child was still free from measles two weeks later, although exposed to infection for the first three days. Perhaps the child was rendered immune. He also referred to a case where a child suffering from measles was placed in bed beside a woman who had been delivered on the previous day. The mother escaped although the newly-born infant developed the rash on the eighth day after birth.—Dr. G. Balfour Marshall referred to a case where a newly-born child became feverish on the second day after birth and twenty-four hours later scarlet fever showed itself. The mother nursed the child and remained immune.—The President also read notes on a fatal case of Septicæmia arising from Gonorrhœal Rheumatism. The patient, a woman, aged 31 years, and in the eighth month of her sixth or seventh pregnancy, was suddenly seized with intense pain in her right knee, which was, however, not visibly swollen. The pain continued intense and was only relieved by hypodermic injections of morphia, all local and other remedies failing. Her temperature varied from 99° to 100°. This continued for a week when premature labour set in and was completed under chloroform as movements of the knee-joint were so painful. While under chloroform the knee-joint was punctured by a hypodermic syringe and some sero-pus was withdrawn. Next day the joint was opened and a little pus was withdrawn. This was bacteriologically examined and only staphylococci were found. Gonorrhœal rheumatism was diagnosed and this was confirmed by the infant developing an intense gonorrhœal ophthalmia. On the second day of the puerperium the mother's temperature rose to 104° and her pulse to 140. On the third day she was restless and maniacal. On the fourth day her temperature fell but rose

again, and she died on the sixth day after intense suffering. The right wrist became painful and a septic punctate rash appeared on both wrists on the third day. There was no distension or pain in the abdomen.—Dr. Carstairs Douglas who saw the case was impressed by the virulence of the attack and thought it probably due to a mixed infection. No gonococci were found in the fluid from the knee-joint.—Dr. Jane B. Henderson read an account of a visit to a Hygienic Dairy-farm near Toronto.—Dr. John Edgar read notes on a case of Anus Vulvalis, the opening being just in front of the fourchette of the vulva.—Dr. A. W. Russell described a similar case.—Dr. Russell read notes of a case of Hydrops Amnii with Twins. The uterus contained over 16 pints of liquor amnii.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on March 14th, Dr. E. Wearne Clarke, the President, being in the chair.—Mr. Richard Favell showed a female patient with a large Pigmented Mole on the left cheek 10 inches in circumference. After an attack of small-pox 13 years ago the mole became scaly and encrusted and now it formed a large, prominent, and unsightly mass occupying nearly the whole of the cheek. Long silky hair was growing from its lower edge.—Mr. Snell introduced a young man from whose vitreous he had removed a piece of steel by the electro-magnet. Two months had elapsed since the accident and at the time of the operation the splinter of steel was surrounded by a mass of effusion.—Mr. E. J. Scorah showed an eye in which a piece of steel was so firmly embedded in the coats of the eye close to the optic disc that it could not be removed by the electro-magnet and enucleation subsequently became necessary.—Mr. H. Clapham showed a fœtus with large Exomphalos.—Dr. Arthur J. Hall showed the following cases: 1. Locomotor Ataxia. 2. Arsenical Alcoholic Neuritis in a young married woman There were marked arsenical pigmentation of the abdomen and incomplete paralysis of the arms and legs. 3. Hydros Gestationis. 4. Ringworm of the Hand in a child, aged 12 months. There was no infection elsewhere and microscopical examination of the scales showed large spores in chain formation. Infection from animal source was regarded as probable. 5. Severe Gout in a man, aged 35 years, with very large tophi, especially about the hands and elbows. 6. Chronic Rheumatoid Arthritis in a young woman, with considerable deformity.—Dr. Hall also read a paper on the Treatment of Varicose Dermatitis of the Legs. After referring to the pathology of the disease and the necessity of distinguishing it from eczema, he referred to the value of zinc gelatin properly applied in removing the pain and swelling and enabling the patient to get about in comparative comfort. The method adopted was to encase the whole leg up to the knee in a thick coating of zinc gelatin dabbed with cotton-wool to form a feltwork and to renew it every three days. Should an ulcer be present it could be treated with suitable dressings at the same time. The advantages claimed for the zinc gelatin treatment were: (1) cheapness, common gelatin and the cheapest calamine making quite as efficient a material as the more expensive articles and costing only about 8*d*. per pound; (2) facility of application and removal; (3) impossibility of displacement, however much the limb might be used; (4) arrest of pain and irritation often in a few hours, so that the patient could go about on the leg without discomfort; and (5) its value as a protective against any injury or irritant when continued after the inflammation or ulceration had subsided.

BRITISH BALNEOLOGICAL AND CLIMATOLOGICAL SOCIETY.—A meeting of this society was held at 20, Hanover-square, W, on March 15th, Dr. Frederic Bagshawe being in the chair.—Mr. Pagan Lowe (Bath), in re-opening the discussion on Anæmia, confined his observations to the two forms of primary anæmia, chlorosis and pernicious anæmia. He considered that they were two distinct diseases which could easily be separated from each other by the aid of the microscope, and that whilst change of air in addition to iron did good in chlorosis, idiopathic anæmia could not be successfully treated without rest in bed, and that the earlier these patients were put to bed and given arsenic the better. He deprecated the daily hot bath for young people and considered that it was one of the causes of chlorosis, whilst Charcot's bath was a principal assistant in his treatment of simple anæmia.—Dr. Haig referred to the intimate relation existing between anæmia and the quantity of uric acid in the blood and urine. He looked upon anæmia as an almost universal disease in eaters of flesh and drinkers of tea. All the drugs that cured anæmia were drugs that cleared the blood and urine of excess of uric acid. He advised a diet free from uric acid as a preventive of all forms of anæmia.—Dr. Arthur Waddell said that the disease was essentially hereditary.—Dr. E. Kingscote discussed the question whether the chlorotic heart was large or small.—Dr. Fortescue Fox said that numerous cases of secondary anæmias were notably benefited at spas or baths of various kinds. He considered that the anæmia of rheumatism was sometimes increased by a course of sulphur waters and must be carefully handled. That of commencing kidney disease was helped by chalybeate springs, especially when taken artificially heated. The anæmia of old age (a part of failing nutrition) was relieved by warm, but not hot, baths. Hot baths were injurious in all forms of anæmia.—Dr. Bezly Thorne said that in the course of a long experience he had never met with a case either of chlorosis or of the more persistent form of anæmia in which a sallow complexion was partly veiled by the high colour produced by degenerate vessels, in which the urine had not been scanty and loaded either with uric acid or urates, while at the same time the motions showed a greater or less deficiency of biliary colouring. He attributed the superlative benefit derived from the Schott-Nauheim methods in anæmia very largely to the free diuresis which that treatment almost invariably rapidly induced.—Dr. E. Solly (Harrogate), Dr. W. Bain (Harrogate), and Dr. StClair Thomson also took part in the discussion.

MIDLAND MEDICAL SOCIETY.—A meeting of this society was held on March 13th at the Birmingham Medical Institute, the President, Mr. Jordan Lloyd, being in the chair.—Dr. Short showed a case of Motor Aphasia with Retention of Writing Power. The patient was a woman, aged 37 years, who had had right hemiplegia two days after confinement six years ago, probably from blocking of the first and second branches of the middle meningeal artery by a clot. There were signs of old mitral stenosis present. She could say "yes" and "no" in an interjectional manner, but not spontaneously. Considering the loss of power in the right hand still present she could write fairly well, make figures, add up correctly, write from dictation, or copy (either print or manuscript), and could also read well. Although unable to say a single word at command she talked in her sleep and occasionally sang a few lines of songs she had known many years ago.—Dr. Short also showed a case of Amyotrophic Lateral Sclerosis occurring in a man, aged 35 years. The disease was of seven months' duration, and was of the type in which the atrophy was in advance of the spastic symptoms. There was marked wasting of the deltoids and the extensors of the hands and wrists with excessive deep reflexes in both arms and legs. Up to the present there had been no sign of mischief above the cervical enlargement, the speech, deglutition, and mental condition all being normal with absence also of jaw-clonus.—Mr. J. T. J. Morrison showed a specimen of Pyelo-nephrosis with Double Ureter.—Dr. Douglas Stanley read a paper on Alterations of Sensation in Lesions of the Brain.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of the Pathological and Microscopical Section of this society was held on March 21st, Dr. J. Hill Abram being in the chair.—Dr. Smart showed a specimen of Aortic Aneurysm; also Renal Calculi.—Dr. J. Wiglesworth showed a specimen of Cystic Degeneration of the Kidney with a blind ureter in the form of a nipple-like process.—Dr. Peet showed a specimen of Colloid Cancer of the Right Lung from a woman, aged 54 years. It weighed 4 lb. 13 oz. and appeared to have spread from the pleura to the lung. The left lung was free from new growth and weighed 14 oz. The peritoneum was studded with small growths of a similar nature.—Dr. Peet also showed a specimen of Abscess of the Pancreas complicating Bright's Disease from a girl, aged 14 years.—Dr. Peet also showed a specimen of Tuberculous Tumour of the Brain secondary to pulmonary tuberculosis in a child, aged 11 years.—Dr. Frank H. Barendt showed a microscopic section of Lupus Non-exedens removed by operation from the submaxillary region of a child, aged six years.—Dr. Karl Grossmann exhibited sections of a case of Cystic Degeneration of the Retina.—Dr. Alexander exhibited a specimen of an Enlarged Prostate with Chronic Cystitis of the bladder.—Dr. Keith Monsarrat showed a Sub periosteal Sarcoma of the Lower Jaw.—Mr. Hugh E. Jones demonstrated the Surgical

Anatomy of the Temporal Bone by means of sections and dissections of the bone, illustrated by lantern slides. The specimens shown were unique and most valuable as guides in operative surgery.—The demonstration was followed by a discussion in which Mr. F. T. Paul, Mr. C. G Lee, and Dr. W. B. Warrington took part.—Mr. E. R. Bickersteth read the clinical notes on a case of Tetanus with Facial Paralysis.—Dr. Warrington and Dr. Griffith read a note on the Morbid Changes in the Nervous System in the above case and ordinary tetanus.—Dr. Monsarrat read a note on a Congenital Renal Growth.

ÆSCULAPIAN SOCIETY OF LONDON.—A meeting of this society was held on March 22nd, Mr. W. C. Worley, the President, being in the chair.—Mr. W. Campbell M'Donnell showed a child with a very Defective Auricle and an Incomplete Auditory Canal.—Mr. F. Hewitt Oliver showed a specimen of Ruptured Tubo-ovarian Pregnancy of about three months from a multipara, aged 31 years. The patient died eight hours from the onset of violent abdominal pain.—Dr. B. G. Morison read a paper on the Rational Treatment of Dyspepsia. He classified dyspepsia as (1) the atonic, anæmic, or neurotic; (2) the catarrhal and acid forms; (3) that due to organic stomach changes; and (4) related to diseases of other viscera than the stomach. For the treatment, if vomiting was present, a very small quantity of milk-and-water, alternating with beef-jelly, should be given half-hourly by the mouth and a mixture of bismuth and peppermint, while if the vomiting then continued a hypodermic injection of morphine should be administered. He advised rhubarb and belladonna or the compound pill of asafetida when constipation was associated with dyspepsia. Gastric irrigation with permanganate solution or saline solution in gastric dilatation was advised.

SOUTHPORT MEDICAL SOCIETY.—A meeting of this society was held on March 13th, Dr. R. Harris, the President, being in the chair.—Mr. R. J. Hamilton (Liverpool) showed: (1) A case of Subacute Glaucoma with some Unusual Features (there was, however, marked restriction of the field of vision on the inner side); and (2) a case of Gonorrheal Iritis where the patient had suffered very little pain in the eyeball; no simultaneous joint affection was present.—Dr. C. Pinkerton read a note on the Presence of Kreatinin in Urine. In large quantities this substance gave the Fehling test for sugar and might lead to errors in diagnosis.—Dr. H. Smurthwaite read a few remarks on a case of Shock from Electric Current of High Potentiality.—Dr. D. M. Hutton read a paper on Diseases and Injuries due to Insects and described the lesions caused by the presence of the larvæ of diptera (myiasis) both in the alimentary canal and in the skin and mucous membranes.

Reviews and Notices of Books.

Disciples of Æsculapius. By Sir BENJAMIN WARD RICHARDSON, M.D., F.R.S. With a Life of the author by his daughter, Mrs. GEORGE MARTIN. In two volumes. London: Hutchinson and Co. 1900. Price 36s.

THESE two large volumes, which comprise 827 pages, contain some excellent writing and some interesting sketches. The first 12 pages are devoted to an outline of the story of Sir Benjamin Ward Richardson's own life, the rest of the volume comprising 25 monographs—Harvey after Death; John Keats; William Gilbert, the First Electrician; Thomas Wakley; Benjamin Rush, the American Sydenham; Vesalius and the Birth of Anatomy; Hermann Boerhaave and the Origin of Scientific Medicine; Antony van Leeuwenhoek and the Origin of Histology; William Cheselden; Antonio Scarpa and Surgical Anatomy; Richard Wiseman and the Surgery of the Commonwealth; Ambrose Paré and the Birth of French Surgery; John Mayow; John Arbuthnott; John Snow; John Brown and the Brunonian System; Richard Mead; John Baptist Morgagni and the Birth of Pathology; René Laennec; William Hunter; Joseph Priestley and the Discovery of Oxygen; John Friend, the Medical Historian; Edward Jenner; and Sir Francis Bacon as a Master of Physic. The chapter on Harvey after Death tells us of his first burial in the vault of the Harvey Chapel at Hempstead, where the remains rested some 226 years, until that day when eight Fellows of the Royal College of Physicians of London carried the leaden case containing the remains out of the vault and placed it in a sarcophagus of Sicilian marble in the Harvey Chapel—the works of Harvey and a scroll with other records being laid upon the leaden case by the hands of Sir William Jenner. In writing of Keats Sir Benjamin Ward Richardson enjoyed the advantage of having among his friends Henry Stephens, who had shared rooms with John Keats in their student days. He is thus speaking with some authority when he writes: "It has been said that Keats, although educated for our own profession of medicine, had no talent for it. In that vulgar acceptance of the term, which converts talent into success as tested by the money-getting standard, the height and splendour of the idol of the market-place, that may be true. It requires an immense amount of inborn stupidity, and withering of heart, and lowering of soul, and worship of dumb ugliness to secure success in the money market of a profession which in its purity is too exalted for wealth either to nourish or debase. But if Keats had once tasted the true spirit of medicine he would, I believe, have become one of her greatest sons—an addition, perchance, to the some eight or ten of the men of all time whom medicine claims as her own."

The memoir of Dr. William Gilbert, author of "De Magnete," which was published in 1600 and which may be called the basis of all electrical science, shows Sir Benjamin Ward Richardson as a discriminating antiquarian, for Gilbert's claims have been very generally neglected until quite recently. The bibliographical sketch of Thomas Wakley is the sympathetic appreciation of a personal friend. The picture of Ambrose Paré, Councillor of State and surgeon-in-chief to Henry III. of France, draws a personality full of fascination; as is also that of the neglected genius, Dr. John Mayow, who in the latter half of the seventeenth century discovered the real function of the lungs and foreshadowed the discovery of oxygen in his "nitro-aerial spirit" which he described as "carried round the body with the blood to keep up the animal fire." John Arbuthnott, the "medical scholar," of whom Pope wrote in 1734: "You are fitter to live or to die than any man I know," forms another interesting subject. The friend of Chesterfield, the centre of a coterie which included Garth, Friend, Swift, and Pope, is described by Sir Benjamin Ward Richardson as a "man who during a long life spent in the exhibition of mental traits as varied as they were powerful, while tossing in the whirlpool of political debate, while classic-serving, antiquarianising, science-seeking, satire-writing, wit-making, and fun-distributing, managed, by hook or by crook, to write prescriptions, the physic of which the people and even royalty swallowed, with all good breeding, and with infinitely more faith in its efficacy than ever satisfied the conscience of the renowned prescriber."

Passing by the lives of Mead, Queen Anne's great physician; of Snow, so well known in connexion with work upon chloroform; and of Brown, the author of the Brunonian theory, we come to the stories of the lives of the brothers William and John Hunter. The biographer certainly has done good service by bringing into prominence the work of the elder of these wonderful brethren. He concludes his monograph on the elder with these words: "The brothers Hunter were twins in science, and William was the first-born." Sir B. W. Richardson shows to us the real John Hunter in his work-a-day form, the superior general practitioner of our art, who, not disdaining midwifery,

brought the poet Byron into the world; Hunter, the man of poor preliminary education, but endowed with an extraordinary fertility of mind and power of observation, the patient investigator who flames in the physiological and natural history departments of knowledge as an inextinguishable light. Some 20 pages are devoted to the life of Joseph Priestley, the discoverer of oxygen—a discovery which as we have previously noted had been anticipated by John Mayow—to a description of the unhappy days when the question about the Test Act was being agitated in and out of Parliament in the last decade of the eighteenth century, and to the persecution to which this gentle man of genius continued to be subjected. The article on Dr. John Friend, the medical historian who was committed to the Tower in 1722-23 as physician to the Bishop of Rochester at the time when the so-called Atterbury plot was submitted to scrutiny, is an able one. Friend was not a great and original genius, but in him the world had a good example of the medical scholar of the historical school of thought. Dr. Edward Jenner is described as "a fortunate Æsculapian," inasmuch as he won admiration as a universal benefactor of mankind during his lifetime. The last biography in the first volume is of Francis Bacon, Viscount St. Albans, in all of whose studies physic played a part, who was by nature a physician, and whose death was hastened by the performance of a physiological experiment which exposed him to danger. Bacon's views as to the future of physic are summed up in "The New Atlantis," and Sir Benjamin Ward Richardson gives an interesting sketch of the great Chancellor and wise philosopher, classifying his labours in medical science and art under the headings, "preventive and curative."

The second volume contains 20 memoirs, including that of John Hunter, of which mention has already been made, viz.:—Alexander Munro, professor of anatomy, and the Origin of the Edinburgh Medical School; William Cullen, physiologist, chemist, practitioner, and scholar, and the Growth of Physical Medicine; Joseph Black and the School of Chemical Medicine; Benjamin Bell and Systematic Surgery; John Hunter, William Hewson, Matthew Baillie, John Moore and Mooriana, Thomas Willis, Sir Kenelme Digby; Sir Thomas Browne and the Religio Medici; Thomas Sydenham and Hippocratic Physic; Erasmus Darwin, John Locke, Robert Boyle, Marcellus Malpighi, John Howard, William Alexander Greenhill, John Abernethy and Thomas Young. Two portraits accompany the memoir of Cullen, one showing him in middle life and the second in old age, with shoulders high, face lengthened, and lower lip partly paralysed and fallen. He will specially be remembered as the President of the Royal College of Physicians of Edinburgh who published a memorial on the custom of conferring the University degrees in medicine on persons who had not received a proper medical education. This volume contains biographies of three men who, though not regular members of the medical profession, yet did more than dabble in things medical—Sir Kenelme Digby, the Honourable Robert Boyle, and John Howard. All the three monographs are pleasant reading. Sir Kenelme Digby was a mystic, but made some additions to philosophical medicine which possess influence even to the present day. The work that has made him best known to the medical world is his "Discovery upon the Cure by Sympathy." Robert Boyle was so fond of medical art and, indeed, of medical research, that he may fairly be reckoned as a medical philosopher. He published in the Proceedings of the Royal Society the first clinical observations of chylous blood ever recorded and a clear account of the early practice of transfusion, and wrote freely about physic without incurring the wrath of the Royal College of Physicians of London. The work of John Howard in the prisons of Europe in connexion with the construction of hospitals and the causation of gaol fever is told excellently. Concerning this great philanthropist Sir Benjamin Ward Richardson writes: "I listen back to the most eloquent of voices of his own time, to words such as none but Edmund Burke could utter." It is well that the echo of these words should sound their note afresh in the hearts of men of our time. Of the author of the "Religio Medici," the "physician of religion," whose work is so well known to us through the splendid edition of the late Dr. W. A. Greenhill of Hastings, a full account is given with an analysis of Sir Benjamin Ward Richardson's impressions of Sir Thomas Browne's *magnum opus*. In his epitome of Thomas Sydenham's life the biographer says: "I should not, for my part, call Sydenham the inventor of any new system in medicine. He merely, in the midst of much controversy, held the old ground, stood by the father and fathers of physics—a medical puritan in scientific as well as political faith"; while of Erasmus Darwin he writes, he "was the most astounding medical light of the eighteenth century and will probably live longer than any Æsculapian of that century." The pages devoted to the life of Dr. Joseph Black will be read with pleasure by all chemists. In the community of Edinburgh he was much loved, attracting to his lecture-rooms dilettanti as well as serious students. His research work on heat, on the cause of fluidity, on latent heat, evaporation, and chemical attraction still prove a valuable source of reference. A careful review of the life and work of Dr. Matthew Baillie is followed by a life of the father of the hero of Corunna, Dr. John Moore, who, the biographer states, was of most distinguished mark in the professional circles of his day. He is known to modern medicine as the describer of the phenomenon of the "aura" in epilepsy and as the historian of the French revolution. He considered Marat one of the vilest and cruellest medical lunatics medicine ever had in her ranks and described him as a ferocious monster.

An interesting article attributes a high position in medicine to Dr. Thomas Willis of anatomical fame. And undoubtedly his work in the seventeenth century, by giving the most exact account which had then appeared of the nervous system, justifies our regarding him as a founder of a school of scientific medicine—a school the aim of which is to find out the causes of disease, and which looks on pathological conditions as aberrations of physiological conditions. The story of John Abernethy is sketched chiefly from Pettigrew's biography, but Sir Benjamin Ward Richardson was intimate with men who knew Abernethy, while patients who had been under Abernethy's care in early days recounted to him anecdotes in respect of the outspoken surgeon with a good many stories of his eccentricities. The pages devoted to Abernethy's personal characteristics are excellent reading. In the medical firmament Abernethy was not perhaps a star of the first magnitude, he shone chiefly with the reflected glory of John Hunter. His students, however, looked on him with the utmost pride—he was both an industrious and a friendly teacher. For them he founded, at St. Bartholomew's Hospital, the Medical and Philosophical Society which immediately after his death was changed to bear, as long as the school shall last, the name of the founder.

As will be gathered from our running commentary upon these volumes, we have found them thoroughly entertaining reading. Such praise of bygone heroes is stimulating to those who follow, and Sir Benjamin Ward Richardson has honoured his predecessors in admirable taste, bringing to the task the eloquence and discrimination of a learned and scholarly man. Many woodcuts add an additional charm to the volumes.

A Treatise on Mental Diseases. By HENRY J. BERKLEY, M.D., Clinical Professor of Psychiatry, the Johns Hopkins University. With Frontispiece, six Plates, and 57 Illustrations in the Text. London: Henry Kimpton. 1901. Royal 8vo. Pp. 601. Price 21*s.* net.

THE present work is based upon lectures delivered by Dr. Berkley at the Johns Hopkins University in 1899, and attempts to embody in a comprehensive form all the principal forms of mental diseases. It is divided into three parts.

Part I. deals with the anatomy and histology of the cerebrum and occupies about 50 pages. The account given is concise, clear, and adequately illustrated. The author's standpoint may be judged by his statement that "in mental affections we have invariably to do with a pathological condition in the brain, either in the cells, in the other component tissues, or in both."

Part II. discusses the general pathology of mental disorders on the basis of a rough division into the so-called functional maladies and organic degenerative maladies. The principal kinds of pathological change affecting cerebral nerve-cells and blood-vessels are briefly touched upon, and then the author deals with the main portion of the work—viz., the clinical section. This occupies the third part and fills four-fifths of the book. The classification of mental diseases adopted is based upon that of Krafft-Ebing, with some modifications rendered necessary by recent work. After general observations on etiology, symptomatology, and treatment, the various types of insanity are considered *seriatim*. Those which are described include melancholia, mania, stupor, chronic secondary insanity, general paralysis, senile insanity, alcoholic and other toxic insanities, insanity from bacterial infection (puerperal and febrile insanities), paranoia and periodic insanities, epileptic insanity, idiocy, imbecility, and the psychoses of childhood. The account of the toxic insanities arising from alcohol, opium, and cocaine may be singled out for commendation as clear and full in description. The author supports the view that general paralysis is nearly always due to syphilis. The remarks on paranoia are full and to the point. Dr. Berkley's work will, we think, fulfil the useful purposes of a compendium for practitioners and students of mental disease. Each chapter concludes with a useful bibliography. We note that no reference is made to dementia præcox, a malady to which much attention has been paid in Europe. The chapter devoted to the insanity of the degenerate suffers inevitably by comparison with French and German treatises which still constitute the high-water mark of science in this direction. There is scarcely need to refer to the author's plea in the preface that the work was written "because of the absence from English medical literature of a comprehensive practical work." Instinctively the names of Spitzka and Kellog in America, and of Clouston, MacPherson, and Bevan Lewis in Great Britain rise in our mind.

Transactions of the American Ophthalmological Society's Thirty-sixth Annual Meeting, Washington, D. C., 1900. Vol. IX. Hartford, Conn., U.S.A.: published by the Society. Pp. 200.

THIS volume contains numerous interesting articles and the records of various rare or exceptional cases that have occurred in the practice of the members of this thriving society which numbers nearly 150 members and includes the names of nearly all the best ophthalmologists in the United States. The meeting was attended by 73 members. Two papers were read on the Operative Treatment of Entropion, one by Dr. Arthur E. Ewing of St. Louis, Mo., and a second by Dr. John E. Weeks of New York City. The details are too complicated to be understood by a brief extract. Dr. Charles Stedman Bull records three cases of Vascular Tumour of the Orbit. In one of these cases electrolysis was frequently applied without much benefit except slight consolidation of the tumour. It was determined to excise it. Ether was administered and Dr. Bull was just about to commence the requisite incisions when the tumour suddenly increased greatly in size, attaining the magnitude of an orange. The condition was so alarming that the operation was deferred. At the expiration of a year another attempt was made and on this occasion with success. It proved to be a case of caverno-angioma. In a second case of pulsating tumour of the orbit the common carotid artery was tied with success. The third case underwent spontaneous cure. Dr. Charles Oliver of Philadelphia, Penn., gives the details of a remarkably successful case in which a retrobulbar sarcoma was removed with preservation of normal vision. Dr. George Harlan of Philadelphia, Penn.; Dr. Robert Sattler of Cincinnati, Ohio; Dr. Arthur Ewing of St. Louis, Mo.; Dr. Greenfield Sluder of St. Louis, Mo.; and Dr. S. D. Risley of Philadelphia, Penn., each read papers in which the parts adjoining the orbits, as the frontal sinus, the nares, and the nasal accessory sinuses, were considered in their relation to ophthalmic symptoms and disease. Dr. G. Sluder supplies several instructive photographs. Dr. Herman Knapp of New York City describes a case of Primary (traumatic) Non-infective Thrombosis of the Cavernous Sinus. The injury was from a blow on the eye with the end of a billiard-cue. The symptoms—œdema of the left lids and conjunctiva, exophthalmos, impairment of function of the third, fourth, fifth, and sixth pairs of nerves, venous engorgement, and œdema of the retina with neuro-retinitis—led Dr. Knapp to diagnose thrombosis of the left cavernous sinus. He forthwith applied to Dr. Frank Hartley, one of the surgeons of the New York Hospital, and inquired whether he was willing to clear out the left cavernous sinus (which was supposed to be obliterated by a new infective thrombus) and to prevent the thrombus from extending to the other cavernous sinus by ligating or compressing with a tampon the circular sinus. Dr. Hartley seemed startled at first, as well he might be, but eventually he undertook to operate. The steps of this formidable operation are given in detail. They seem to have been carefully thought out and skilfully performed. The patient lived for 10 weeks and died from extension of the disease. Dr. Lucien Howe of Buffalo, N.Y., contributes a valuable article on Relative Accommodation and Convergence, and describes and depicts an ingenious instrument, which he has devised for the purpose of determining these points, which he has named an "opto-dynamometer." Other articles of interest are by Dr. C. A. Veasey of Philadelphia, Penn., on a case of Excision of Lacrymal Sac and Gland followed by a form of Neuroparalytic Keratitis, and Dr. Harry Friedenwald of Baltimore, Md., on the Treatment of Dendritic Keratitis. This volume of the Transactions contains a memoir and portrait of Dr. Edward L. Holmes, a distinguished American ophthalmic surgeon.

LIBRARY TABLE.

Perfect Health: How to Get It and How to Keep It; by One Who Has It. By CHARLES C. HASKELL, Norwich, Conn. London: Fowler and Co. 1901. Pp. 209. Price 2*s.* 6*d.*—This book is apparently an elaborate puff of another book—namely, "The True Science of Living," by Dr. Dewey. We noticed two of Dr. Dewey's books in THE LANCET of Feb 2nd, p. 334. Mr. Haskell tried Dr. Dewey's plan and found himself much better. We are perfectly willing to allow that if a man does not want his breakfast he should not eat it, but that eating no breakfast is the cure for every ill we do not believe. The stories of fasts lasting for 50 days must be taken with a very large grain of salt. The testimonials from all sorts and conditions of men

are wonderful reading, especially that from the "Returned Missionary from Persia," who vomited bile "in a pasty form and a harder crusty form in bits and pieces."

The Prolongation of Life. By R. E. DUDGEON, M.D. London: Chatto and Windus. 1900. Pp. 166 and Index. Price 3*s.* 6*d.*—This little book, although written by a medical man, is not a medical work strictly speaking, for it treats of health and not of disease. Its eight chapters deal with the subjects of exercise, clothing, bathing, food, drink, tobacco, eyes, and beards, and Dr. Dudgeon's object is, as his prologue tells us, to give people directions for spending a comfortable old age. In this we think he has succeeded, although his remarks apply only to the healthy. His advice on eating and drinking is excellent on the whole, though we feel inclined to differ from him when he says (p. 101) that it is better to eat alone because thus we shall not be tempted to over-eat. This is true, but, on the other hand, eating alone conduces to eating too fast, and the very loneliness seems in many cases to predispose to dyspepsia. Dr. Dudgeon has an objection to woollen fabrics worn next the skin. We do not think that this objection applies universally. Some persons are more comfortable with woollen underclothing and find it suits them. Such persons should, we think, continue to wear woollen. But taken as a whole the book is worth careful study by those to whom it is addressed.

Traité de Chirurgie d'Urgence. Par FÉLIX LÉJARS, Professeur Agrégé à la Faculté de Médecine de Paris, Chirurgien de l'Hôpital Tenon, Membre de la Société de Chirurgie. (*A Treatise on the Surgery of Emergencies.* By FÉLIX LÉJARS, Professor *agrégé* at the Paris Faculty of Medicine, Surgeon to the Tenon Hospital, and Member of the Society of Surgery.) Second edition, revised and enlarged, with 617 Illustrations, of which 249 are drawn from nature by Dr. E. DALEINE, and 150 Original Photographs. Paris: Masson and Co. 1900. Pp. 912. Price 25 francs.—The surgery of emergencies is in one respect the most important branch of the subject. It is at least that portion of surgery with which those who practise their art should be most familiar, for what has to be done must be done at once and time spent in looking up authorities may, and often will, be time that might have served to save a life lost by this delay. It is therefore very important that students should be always especially examined in their knowledge of this department of surgery and failure to satisfy the examiners in it should be considered as much more serious than lack of knowledge in those branches in which immediate action is of less moment. It is evident that it must be very convenient to those engaged in practice to have in one volume a full account of the surgery of emergencies, and we may say at once that Professor Léjars's work fully comes up to our ideal of what such a book should be. It is obvious that very different opinions might be held as to the subjects which would naturally be included under the head of emergencies, but we think the author has acted wisely in including more than might have been absolutely necessary rather than omitting some operation that could be reasonably expected to be included. The illustrations are very numerous; in fact, it might be urged that some of them are unnecessary—for instance, a reproduction of a photograph representing how an operator should brush his nails when endeavouring to render his hands aseptic. We have, however, nothing but commendation for this work and it will be likely to prove of use to every surgeon who can read French. The book is excellently printed.

JOURNALS AND MAGAZINES.

The *Journal of Hygiene*, Vol. I., No. 1. Edited by GEORGE H. F. NUTTALL, M.D., Ph.D., Lecturer on Bacteriology and Preventive Medicine in the University of Cambridge, in conjunction with JOHN S. HALDANE, M.D. Edin., F.R.S., Lecturer on Physiology in the University of Oxford, and ARTHUR NEWSHOLME, M.D., F.R.C.P. Lond. Published quarterly. Cambridge University Press. London: C. J. Clay. Price 5*s.* net.—"The *Journal of Hygiene* has been founded in order to meet a need which has long been felt for a journal devoted to the publication in the English language of original work in hygiene." In these words the editors introduce their new periodical. The first two articles form part of a series of studies on malaria. Of these, the first deals with the Geographical Distribution of Anopheles in relation to the Former Distribution of Ague in England, a paper contributed by Dr. Nuttall, Dr. L. Cobbett, and Mr. T. Strangeways Pigg. The paper is somewhat fragmentary, and we are by no means convinced that the evidence offered justifies all the conclusions which are arrived at by the writers. The second study deals with the Structure and Biology of Anopheles (Anopheles Maculipennis). This work appears to have been carefully done and the illustrations are well drawn and clear. A little more attention to the literary style might well have been given to the letterpress; for example, on p. 58 larvæ are described as "browsing about" and are inferentially referred to as "animals." The following sentence, which occurs on the same page, is not a happy example of literary diction: "The particles that are swallowed accumulate for a certain time until a mouthful of some size is attained and this then suddenly passes into the œsophagus." Dr. Klein's article on Pathogenic Microbes in Milk is by no means comforting. A paper on Industrial Lead Poisoning, by Dr. T. M. Legge (His Majesty's Medical Inspector of Factories), is clearly written and full of information. In one word, it is excellent. Dr. Haldane contributes two papers, the first on a Rapid Method of Determining Carbonic Acid in Air, in which the author describes a portable apparatus for which he claims the merit that it is always ready for use, that it gives quickly results which are accurate, and that no calculations are involved. An apparatus possessing these merits has long been wanted. Dr Haldane's second paper is on the Red Colouring Matter of Salted Meat. It is pleasant to learn that the distinctive pigment of salt meat is not prejudicial to the internal economy when the food is well cooked and that modern research on this point is thus in accord with popular experience in the matter. One of the remaining papers contained in the volume is full of interest and worthy of careful study; it records observations on the artificial modifications of toxins, with special reference to immunity, and is from the pen of Dr. J. Ritchie. An experiment on the Effect of Inhalation of Ethylene, by Dr. J. Lorrain Smith and Mr. A. Percy Hoskins, shows that the effects produced by ethylene are very slight. The concluding paper is written by Dr. Newsholme and is on the Utility of Isolation Hospitals in Diminishing the Spread of Scarlet Fever—a subject on which it is hardly to be supposed that there is any serious disagreement amongst medical men.

The Quarterly Journal of Microscopical Science. Edited by E. RAY LANKESTER, F.R.S., ADAM SEDGWICK, F.R.S., W. F. R. WELDON, F.R.S., and SYDNEY HICKSON, F.R.S. New series, No. 174. London: J. and A. Churchill. 1901. Vol. XLIV. Part 2, March, 1901. Pp. 150. Price 10*s.*—The first memoir contained in this part is on the Development and Succession of Teeth in Halteria Punctata, by H. Spencer Harrison, B.Sc. Lond., demonstrator and lecturer on biology, University College, Cardiff. The author shows that the first dentition of this lizard consists of about 36 minute teeth which originate immediately below the epidermis, labial to the dental lamina; other teeth appear during the incubation period on the dental lamina which are probably members of a second and third dentition, and instead of displacing the earlier set alternate with them. Successional teeth make their first appearance in the premaxillæ some months

after hatching and there are in all five distinct sets up to the time when the young individual measures 21·2 centimetres. Other teeth are found upon the maxillæ, palate, vomer, and mandible. All the teeth, except those of the first dentition, have an outer coating of enamel which contains prolongations of the dentinal tubules. The mode of attachment of the teeth is hyperacrodont. The memoir is illustrated with three plates. 2. The Anatomy of Pleurotomaria Beyrichii, Hilg., by Martin F. Woodward, demonstrator of zoology, Royal College of Science, London. Mr. Woodward's specimens were obtained from Boshu, Japan. The animal is stated to be a typical example of a zygobranchiate diotocardian, and is a form very closely related to the stock from which the monotocardia originated. There are four accompanying plates. 3. Dolichorhyncus Indicus a New Acraniate, by Mr. Arthur Willey. 4. Heteropleuron Hectori, the New Zealand Lancelet, by W. Blaxham Benham, M.A., F.Z.S., professor of biology in the University of Otago, with a plate. 5. On Some Parasites found in Echinus Esculentus, L., by Arthur E. Shipley, M.A., Fellow and tutor of Christ's College, Cambridge, with a plate. One of these is a trematode worm, the syndesmus echinorum, François, the anatomy of which is fully given by Mr Shipley; and another is a nematode named oncholaimus echini, of which, however, few details are given. 6. The Scottish Silurian Scorpion, by Mr. R. I. Pocock, with a plate. This specimen, which belongs to the Kilmarnock Museum, lies on its back, and is thus the complement of the specimen found at Gotland in Sweden, which has been named "palæophonus nuncius." This specimen is named "palæophonus hunteri," differing in some particulars from other known palæophoni. Mr. Pocock thinks this ancient scorpion occupies an intermediate position between limulus and eurypterida. Its skeleton supplies a few more links to the chain of evidence pointing to the descent of the scorpions from marine limuloid ancestors.

In the *Veterinarian* for March there is a most interesting article by Professor Mettam, B.Sc., M.R.C.V.S., on the production of surgical anæsthesia by the injection of cocaine into the lumbar sub-arachnoid space. The article is mainly a summary of what has already appeared in THE LANCET, accompanied by extracts from the *Semaine Médicale* and the details of some 12 experimental observations made by two French veterinary surgeons (M. Cuillé and M. Sendrail) upon animals. In equines five cases were attempted. The subjects did not appear to feel sensation in the hind limbs after the injection, although such severe operations as neurotomy, passing setons, the application of the actual cautery, and even ovariotomy, were performed. In cattle and dogs similar injections were also made, the results being equally satisfactory. The site of injection in the horse is found by drawing an imaginary line between the internal angles of the two ilia and taking the exact centre of this. On account of the closeness of the vertebral laminæ this is the only accessible spot. Provided that strict antiseptic precautions are attended to and care is taken that an overdose of cocaine is not administered, there seems to be a prospect that this method of producing anæsthesia will prove useful to the veterinary practitioner, but the difficulties and dangers in the way are much more numerous in the case of a fractious animal than in human patients. The closeness of the vertebral laminæ and spines is in itself a great obstacle, and with a subject that will not keep still in order that the operator may find the exact spot where he can penetrate the neural canal it can be imagined that less time and trouble would be taken by the present method of casting and chloroforming. It will be interesting to note what further progress is made by veterinarians. Mr. Alexander Meek, B.Sc., continues his studies of the "Growth of the Farm Ungulates," giving a further series of tables and statistics relating to the weights of cattle at certain ages. The clinical side is well represented by case notes from various veterinary practitioners and under the headings of "The Month's Progress" and "Science Notes" are items of general interest.

Scottish Medical and Surgical Journal.—The opening article in the March number is on the Edinburgh Hospital in South Africa and its Work, by Dr. Francis D. Boyd and Dr. G. L. Chiene. Of the medical cases the principal disease dealt with was enteric fever, rather over 150 cases of which were admitted. The bowels were, as a rule, constipated; diarrhœa was the exception. Thrombosis was present as a common complication, occurring in 6 per cent. of the cases. It came on late in the disease, showing itself in the earliest case on the twenty-sixth day. Usually the veins of the leg were affected, but in one case thrombosis of the branches of the middle cerebral artery gave rise to paralysis with aphasia. Relapse occurred in 5·3 per cent. of the cases. Only one case of the apyrexial type of the disease was noted, in one of the members of the staff who had been inoculated. He had a rash, gastro-intestinal symptoms, enlarged spleen, and typical stools, but the temperature during the five weeks when he was in hospital only once rose to 99·4° F.; as a rule, it was subnormal. Widal's reaction was carried out in all doubtful cases and in most cases where the diagnosis was certain. Dr. T. D. Luke pleads for the more general use of ether as an anæsthetic in general surgery. Other original articles are contributed by Mr. A. W. Mayo Robson of Leeds and by Dr. Francis Kelly of Aberdeen.

Dublin Journal of Medical Science.—The original articles in the March number are: (1) A Criticism on the Light Treatment of Lupus, by Dr. Edward Stapleton; (2) The Nordrach Treatment of Consumption in Ireland, by Dr. P. S. Hichens; (3) Four Cases of Laparotomy, by Professor R. J. Kinkead; and (4) Clinical Report of the Rotunda Hospital for one year, Nov. 1st, 1899, to Oct. 31st, 1900, by Dr. R. D. Purefoy, Dr. H. C. Lloyd, and Dr. P. Carton.

The Sei-I-Kwai Medical Journal. Edited and published by the Sei-I-Kwai or Society for the Advancement of Medical Science in Japan.—The present number of this journal is dated Tōkyō, Jan. 31st, 1901. It possesses the unusual feature that of its 62 pages 20 are in English and 42 in Japanese. The contents of the English portion are—(1) an essay on the Prevention of Tuberculosis in the Navy, by K. Momose, surgeon, Imperial Japanese Navy, translated by S. Miwa; (2) an obituary (with portrait) of Mr. William Anderson, F.R.C.S. Eng., late superintendent of the Imperial Naval Hospital and professor in the Naval Medical College of Tōkyō; and (3) an obituary of Baron Itō, a nonagenarian botanist. The contents of the Japanese portion are—(1) a case of Cholecystotomy, by K. Takaki, F.R.C.S. Eng.; (2) a case of so-called Bernhalt's Disturbance of Sensation, by B. Shinshi; (3) an abstract on the Treatment of Diabetes; (4) a discussion on Empyema; (5) a memoir of Mr. William Anderson; and (6) a paragraph on Serum Treatment and the result of Prophylactic Inoculation for Dysentery. Subjoined to the English obituary of Mr. Anderson is an illustration of the Anderson medal, founded by his old pupils, and awarded annually to a naval surgeon, the successful competitor in an examination in surgical anatomy.

Mercy and Truth.—One of the articles in the March number describes the ceremony of opening the Church Missionary Society Medical Mission in Bermondsey. Between Jan. 9th and Feb. 10th there were 563 attendances at the dispensary and 357 visits were paid. It is announced that the annual meeting of the Medical Mission Auxiliary will be held in St. James's Hall on April 30th.

Analytical Records
FROM
THE LANCET LABORATORY.

"CONCORDIA" WINE (SPANISH).

(P. DE OTADUY AND CO., 20, HIGH HOLBORN, LONDON, W.C.)

THIS is a Spanish white wine, suggesting at the same time the Sauterne and the sherry character. Its alcoholic strength approaches more that of sherry than that of Sauterne. The analysis was as follows: extractives, 1·62 per cent.; mineral matter, 0·26 per cent.; alcohol, by weight 13·15 per cent., by volume 16·24 per cent., equal to proof spirit 28·46 per cent.; volatile acids reckoned as acetic acid, 0·156 per cent.; fixed acids reckoned as tartaric acid, 0·32 per cent.; sugar, 0·10 per cent.; and potassium sulphate, 0·67 gramme per litre. The wine is practically free from sugar. From the somewhat excessive amount of potassium sulphate it contains the grape juice would appear to have been liberally treated with sulphate of lime, the so-called "plastering" process. The wine is dry and possesses good flavour and bouquet. Its freedom from sugar is a feature of some dietetic importance.

THE DUPLEX HOT-AIR SPRAY.

(THE HOT-AIR SPRAY CO., 37, YORK-PLACE, EDINBURGH.)

We cannot remark any particular novelty in regard to this apparatus. It consists of a conical flask inclosing a glass test-tube in which the medicament is placed. The flask is intended to contain hot water so as to facilitate the volatilisation of the medicament, be it solid or liquid. A current of air is forced through the inner tube by a rubber aspirator, glass tubes being provided through a rubber stopper after the manner of a wash-bottle. The air in its passage through the tube, especially as it is jacketed with a hot-water container, carries forward the medicament for the purpose of inhalation. In this way it may be used as a hot-air spray for inhalations and for the local application of volatile remedies.

AUTOMATIC DISINFECTOR.

(FELL'S CHLORINE DISINFECTOR CO., ENDON, STAFFORDSHIRE.)

This apparatus is designed for diffusing automatically a quantity of chloride of lime solution in the cistern for flushing and disinfectant purposes. It consists of a pot provided with perforations and containing the chloride of lime. When placed in the cistern the chloride of lime gradually dissolves and thus the water used for the flush is charged with a definite quantity of a powerful disinfectant. The method is by no means new, and the objectionable smell given off by chloride of lime, although it may be assigned to the production of hypochlorous acid and probably chlorine, which are extremely powerful disinfectants, would not be tolerated by the majority of people. It is unpleasant to meet with a chlorous smell in the dwelling-house.

RUBY FIRES.

(RUBY'S LIMITED, PARK-ROAD, BATTERSEA, LONDON, S.W.)

The Ruby fire consists of a compost of small coal with pitch, which is said to be useful as a source of heat for the sick room and "at the same time to act as a powerful yet pleasant disinfectant." This latter claim we may dismiss at once as ridiculous. We need only point out that the combustion of the fire is attended with the production of considerable smoke, and an efficient flue is very necessary to carry this smoke away. Doubtless the smoke possesses disinfectant properties, but care should be taken to keep it out of the sick room. The fire consists of a cylinder block which readily lights, producing instantly a smoky flame which lasts for some time, and when the flame dies out a mass of glowing fuel is left behind. The "fire" yields little useful heat and it could never take the place of an ordinary coal fire, although it may be used with advantage for quickly making a coal fire radiant.

BATTLE OF THE CLUBS.

ON March 9th a meeting of the William's Pride Lodge of the Rotherham Equalised Druids was held at Eckington, Derbyshire, for the purpose of presenting Bro. Hancock with an accident compensation grant of £120 and the secretary, Bro. Norman, with a writing-desk. Among those present was Mr. W. B. Croskery of Eckington, the medical officer of the lodge. After the presentation to Mr. Hancock had been made Mr. Croskery congratulated him and in the course of his speech remarked that the working classes had become a great power in the land. According to the report of the meeting given in the *Eckington, Woodhouse, and Staveley Express* of March 15th Mr. Croskery went on to say that he belonged to a profession which had suffered largely in contract work by want of combination. They had learnt a lesson from the working classes and they were hoping to benefit by combination. The working classes by their efforts to raise their position by combination had shown their employers that they would obtain better remuneration for their services. The medical men by their efforts at combination hoped that their services would be more largely rewarded in the future. The contract work carried on by medical men was paid at the same rate of remuneration that was paid 50 years ago. Now medical education took twice the time and cost twice the money it did then, unqualified assistants had been done away with, drugs had gone up in price, and different laws had come into force, such as the Employers' Liability Act and the Notification Act. All these things gave more work to medical men. At present a conciliation board was meeting in London, composed of the better-class lodges and medical men, and there was a considerable unanimity of opinion that in the past medical men had not received the treatment which they ought to have received, and it was hoped that in the future the modest demands of medical men would be met in an agreeable manner by the combinations of the working classes and that justice, which was all they asked for, would be given to them.

Mr. Croskery's remarks were frequently applauded and Bro. Gaffney, in moving a vote of thanks to him for attending, said that he was glad to hear that medical men had banded together to raise their profession, not only remuneratively, but scientifically. They, as trade unionists, had no desire to grind down the medical profession.

We are glad to find members of a friendly society of the standing of the Druids expressing such sentiments, and we commend this account to those members of the medical profession who have yet to approve the value of legitimate combination and organisation.

Another meeting of the same order, but in connexion with a different lodge—namely, the Kenny's Pride Lodge—was held on March 11th, this occasion also being to present a member with an accident compensation grant. Dr. J. D. Kenny, the medical officer of the lodge, was in the chair. During the course of the proceedings Mr. Gaffney, referring to medical men and medical aid associations, said that he hoped that medical men would demand only what was fair and just. He thought that there could be no doubt that assistants to medical men, as well as drugs and instruments, cost more than formerly. Members of friendly societies were prepared to pay their medical men what was fair, but medical men must remember that these members were only paying in the same sums as they did 30 or 40 years ago. Mr. Richard Kirk expressed the opinion that the time had come for every member to be asked to pay an increased contribution. He noticed that Dr. Kenny still attended members on the old scale. Dr. Kenny asked permission to refer to the question of fees. He explained that when he took the members of the lodge at 3*s.* 6*d.* each he had the colliery club as well and was therefore in a way paid twice over. But for that, he should have gone in for the increase and stood shoulder-to-shoulder with his professional brethren. We congratulate Mr. Gaffney and Mr. Kirk on their opinions and trust that it will not be long before they are put into practice.

THE LANCET.

LONDON: SATURDAY, MARCH 30, 1901.

The Indian Medical Service.

THE history of India has of late been largely a record, as everybody knows, of various deplorable experiences and sad vicissitudes of one sort and another, constituting the medical rather than the ordinary general history of a country. Plague, pestilence, and famine make up a list of evils from which a nation may well pray to be delivered, and it is through such that India has of recent years been passing. Nor can it be said that the latest news regarding the epidemic of plague in that country is reassuring, although it may be hoped that one of those seasonal fluctuations, which have hitherto marked its progress and may be regarded as part of its natural history, is approaching when a temporary lull in the prevalence and mortality of the epidemic may be expected to appear. On the disastrous effect which this succession of calamities has had upon India and its vast native population there is no need to dwell. During the whole of this trying time the officers of the Indian Medical Service have most loyally and patiently devoted themselves to their work. Unhappily, the occurrence of the troubles in China has now to be added to the list of responsibilities of the Indian Government and to the labours of its medical service. Medical officers, recognising the necessities of the situation in the past, have struggled to do their best and have willingly foregone all leave and continued, or been recalled to, their duties in India in order to aid the Government in successfully coping with the urgent requirements of the position. But it is clear that this state of things cannot be continued indefinitely. There arrives a time when the strain becomes more than can be sustained and the probable risks and sacrifices become too great to be contemplated with any equanimity. It is, to adopt a proverbial metaphor, futile to apply whip and spur to a willing but jaded horse; rather in the present case of the medical service should these be used to urge on the lagging intent of the authorities.

We quite recognise that the Government have had to encounter unusual difficulties and has striven to do their best in the hope that these would prove to be of a purely temporary character, but we confess that we cannot regard the matter in that light. The measure which seems to us to be most urgently needed at the present time and the one which would tend more than anything else to lift the Indian Medical Service out of the difficulties which it is experiencing in regard to leave is an increase of its establishment. This is a real grievance and an increasing one. Not only has all leave been stopped but voluntary retirements have been suspended and all medical officers on furlough have been recalled to India. We feel confident that the Secretary of State for India, when he fully realises the position, will recognise the legitimate nature of the discontent to which this state of affairs must give rise and that he will do his best to remove it. This could, in our opinion, be easily done and without any unreasonable strain on the Government finances of India. An increase of 10 per cent. to the establishment is necessary. We calculate that such an increase would suffice to meet all the demands for special duty in ordinary times without interfering with leave. The service would still have to meet any extraordinary emergencies, but if we may judge from the spirit which it has always exhibited it may confidently be counted upon to do this. Let us explain with a little more detail. The Indian Medical Service consists at the present time of one officer for every permanent appointment which has been sanctioned by the Secretary of State plus 20 per cent. for leave purposes and 5 per cent. for casualties. Any extra appointment not on the sanctioned lists has to be filled from this 25 per cent. reserve, and the more of these extra appointments there are the more, of course, is this reserve encroached upon. The service is not recruited to meet Imperial needs in Africa and China, and the consequence of all the recent troubles in those countries has brought about the result which we have already stated. Ever since the Chitral expedition of 1895 the same difficulty in regard to leave has prevailed more or less except in 1898. War, plague, or famine, sometimes all three together, have been present, and the whole of the leave reserve has been absorbed owing to medical officers having to be put on special duty. 105 officers are entitled to be on leave at the same time. But we understand that there are at present some 125 in South Africa and China, 56 on sick leave, and some 16 on plague or other special duty. This makes 92 officers short of the requirements for current work.

The hospital arrangements for the expedition to China have been made on a large scale—on altogether too large a scale in the opinion of many—but no one is likely to err on the side of too economical a provision in the present day, and it may be readily understood that the Secretary of State for India was determined to have no debates in Parliament and commissions of inquiry in connexion with Indian arrangements. Be this as it may, the troubles in China have made great demands at an unfortunate time upon the medical services in India, and when they are over something else will be sure to occur in a country like India to create fresh demands for special duty officers. To get over the difficulty and to prevent its becoming a chronic source of complaint there seems to be no way but by increasing the cadre so as to allow the leave reserve to be utilised for the purpose for which it was intended. There is no doubt room for the introduction of several improvements in the Indian Medical Service. Still, it is an old and good, and on the whole a contented, medical service. Long may it remain so and long may it continue to attract the excellent class of candidates which it has hitherto secured, and we trust that the Secretary of State will see his way to effect this object by sanctioning an adequate increase of its establishment.

The Public Health and the Housing Question.

THE duty of providing suitable dwellings for the poorer members of the community is by no means an easy one to fulfil. One of the chief difficulties in the matter was

admirably summed up by Sir JOHN SIMON when he pointed out that the smallness of the earnings of the poor in the lowest paid branches of industry as compared with the necessary costs of wholesome and decent living. This has always been the main fact which has caused trouble and the possibility of rendering that ratio less unfavourable to the poorer workers either by cheapening the costs of life or by bettering their conditions of employment has in a variety of forms been the essential problem for study.[1] In the City of London itself Sir JOHN SIMON had found a state of things which probably does not exist at the present time in any part of the metropolitan area. "Hovels like pits, low sunken between high houses hemmed in by barriers" which excluded every breath of ventilation were a little over 50 years ago situated in the very heart of the City. By way of improvement Sir JOHN SIMON suggested to the civic authorities two possible solutions: "To remove the well-constructed houses of the City in order that its wretched courts and alleys should participate in the blessings of light and air might seem one method of conquering the difficulty which is before you. But I apprehend the opposite alternative of proceeding to a gradual suppression of all residence in the former class of dwellings may more naturally have your approbation."[2] It was by means of a presentation of the stern facts lighted by gleams of humour that the medical officer of the City of London impressed on the City Commissioners of Sewers the conditions which needed alteration; and by his persistent labour he was ultimately rewarded by bringing about a gradual change for the better, at first in the City and later through the country generally, at the later period of his life when he became medical officer to the Privy Council.

The first improvements in the condition of the dwellings of the working-classes were carried out by philanthropic societies. During the first half of the last century the Society for the Improvement of the Condition of the Labouring Classes, which was under the patronage of QUEEN VICTORIA and of the QUEEN DOWAGER, and of which PRINCE ALBERT was the President, and another society called the Metropolitan Association for Improving the Dwellings of the Industrious Classes (which was under the chairmanship of Sir RALPH HOWARD) did a great deal of useful work. In St. Pancras, in Pentonville, in St Giles's, and in Drury Lane, a number of model lodging-houses were built and conducted under rules made to ensure cleanliness, sobriety, and a general propriety of conduct. The buildings were constructed with a view to ensure proper ventilation, drainage, and general cleanliness, and the establishments thus started were an enormous improvement on anything which had previously existed in London. Of late years still greater advances have been made, but up to the present time those who have most profited by the newly-built dwellings have been rather well-to-do artisans than the very poor—the class called by Mr. CHARLES BOOTH the "casual workers." Unfortunately, these people have, as a rule, been unable to pay the amount necessary to obtain even a small flat in the newly-constructed dwellings. As a class they do not generally gain the practical sympathy of those who have devoted most of their time to the study of the conditions of the poor in London. The class, according to Mr. CHARLES BOOTH, is not one in which men are born to live and die so much as "a deposit" from a class of those who from mental, moral, and physical reasons are incapable of better work. It is doubtless a class for which it is extremely difficult to do anything, but it may be hoped with regard to it that the resources of civilisation will not entirely fail to be of use.

The Milroy Lectures which were delivered before the Royal College of Physicians of London by Dr. J. F. J. SYKES and of which the third and concluding lecture was published in THE LANCET of March 23rd, p. 837, deal with the influence of the dwelling upon health. We commend these lectures to the study of our readers. They contain in addition to some well-known and well-established facts a number of personal observations on the present state of the dwellings of the poorer classes in St. Pancras, many of which are very striking. The fact that overcrowding in barracks has been in the past a great cause of high mortality is now a matter of common knowledge, but it is none the less a notable fact that the investigation made into the high mortality of the Foot Guards over 40 years ago and the results which came of that inquiry were the starting-point for enormous improvements in the ventilation of houses generally and particularly in the ventilation of dormitories. Dr. SYKES gives some interesting statistics with regard to the relative mortality in stable dwellings and in the other houses which are to be found in St. Pancras, the district to which he is medical officer of health. It will be noticed from the statistics which he gives that the death-rate from zymotic and pulmonary diseases is excessively high in stable dwellings, and from the statement which he publishes it seems open to doubt whether these dwellings are at all fit for human habitation. Dr. SYKES, in his third lecture, points out the difficulties which have ensued from the alteration of houses of fair size into dwellings for more than one family. One of the most striking pieces of information is that which relates to the inadequate water-supply in some workmen's flats. It seems that in many of these buildings of four storeys no water is laid on above the ground floor and that all the water which is required has therefore to be carried upstairs by the unfortunate people who live there. "There is a vast number of families," he says, "in London living on the top floors of four-storeyed houses the water-taps, sinks, water-closets, and dust-bins of which are situated at the ground floor or basement or in the yard or area, and these houses are about 40 feet high." This state of things is one which demands immediate alteration.

The Metropolitan Boroughs will have much to do in regard to the improvement of the dwellings of the poor. We have no doubt that they will set about the work without delay and carry it out efficiently. In former days, when the enforcement of sanitary regulations was in the hands of the vestries, these bodies too often neglected their duties. The first report of the Royal Commission on the Housing of the Working-classes pointed out that the remedy which legislation had provided for sanitary evils had been imperfectly

[1] English Sanitary Institutions Reviewed in their Course of Development, and in some of their Political and Social Relations, by Sir John Simon, K.C.B. Cassell and Co., London. 1890.
[2] Report of the Sanitary Condition of the City of London for the year 1848-9. London, Brewster and West.

applied in the metropolis, and the Commissioners went on to state that the failure had been not infrequently due to the negligence of the local authorities. Evidence was given to the Commission that insanitary property in many cases was owned by members of the vestries and of the district boards, and from these facts it was obvious that many of the persons whose duty it was to see that a better state of things should exist were those who were pecuniarily interested in keeping them as they were. We have no doubt that members of Metropolitan Boroughs will be guiltless of any such frightful jobbery. The work before them is a very great one, and will need energy as well as honesty to carry it through successfully. By way of making a beginning each Borough Council would be well advised to have a full report made by some efficient officer as to the state of the dwellings throughout its whole area. Efficient sanitation can only be maintained by constant effort, and it is a matter of extreme importance that the Boroughs should not be content to wait with a view simply to clear away the houses of the poorer people, but that all that constant care can do should be begun without delay and should be carried out without intermission. Let us mention only two examples: the present regulations in regard to dustbins are not properly enforced even in the richest parts of London, and it is obvious from Dr. SYKES's report that there are many dwellings which are at present without a constant water-supply.

The Medical Staff and the Management of the National Hospital for the Paralysed and Epileptic.

THE proceedings at the meeting of governors of the National Hospital for the Paralysed and Epileptic, which took place at the hospital on Saturday, March 23rd, will be found fully reported on p. 981 of the present issue of THE LANCET. The result of the meeting is extremely significant. Our readers know the position of affairs, which was set out at length, not for the first time, in THE LANCET of March 16th, p. 798. The medical staff had on various occasions during the last 10 years requested representation on the Board of Management. The Board had persistently refused the request and at their suggestion different methods had been tried as substitutes for that proposed by the staff. These methods had proved unsatisfactory in actual practice. One of them had been discontinued by the Board without any reason; another had been repudiated by the staff because the Board had not adhered to the conditions on which alone the staff had consented to give it a trial. Finally, in June of last year the staff, receiving no satisfaction from the Board, appealed to the governors, and in their appeal furnished illustrations of faults in the administration of the hospital which the complete absence of medical knowledge in the Board had entailed.

The various efforts of the Board to escape from the position in which the statements of the staff to the governors had placed them may be fairly summarised as follows:—(1) the appointment by the Board of a sub-committee of its own body, which inquired into the allegations and faintly approved the existing methods of administration; (2) the calling of a packed meeting in the "silly season" to secure a vote of the governors approving of exclusion of the medical staff from the administration of the charity; (3) the appointment of Sir FORD NORTH to hold a limited inquiry under circumstances which precluded the staff from having anything to do with the inquiry; and (4) the efforts of certain friends of the Board and of the staff to bring about peace, which were rendered futile by the discovery of the Board that the medical staff intended to maintain their position. There is inherent evidence to show that during the long time in which the Board were presumed to be considering the resolutions of the staff to insist upon proper representation they were organising a decisive move against the staff. For negotiations with the staff were suddenly broken off and simultaneously, through the secretary-director, behind whose name they have persistently hidden their identity, the Board issued a statement in the *Times* and summoned a meeting of governors. This is the meeting which was held on March 23rd, at noon. The motions to be proposed were two in number. The first provided for an inquiry into the allegations by the medical staff of mismanagement in the administration, and the second defined the character and scope of that inquiry. As the first was the only one which came before the meeting we need refer only to it. It stated—

"That inasmuch as the demand of the medical staff for direct elective representation on the Board of Management has been expressly based upon certain allegations contained in a statement that was issued by the medical staff to the governors in June, 1900, and inasmuch as it would be impossible to test the accuracy of such allegations at a meeting of the governors, it is hereby resolved that an independent inquiry into the accuracy of these allegations ought to precede any reconsideration of the demand of the medical staff."

This motion rested upon an absolutely false basis, for it was notorious that the staff had made repeated requests for representation on the Board many years before the statement to the governors was issued. The motion was proposed, in a speech which was far from conciliatory, by Mr. GEORGE W. E. RUSSELL, who did his best to make historical fact fit his conception of the case. It was seconded by Mr. FRANK CAPEL, another member of the Board. An amendment was at once moved by Mr. MELVILL GREEN, a gentleman to whom the other governors of the hospital owe a deep debt of gratitude for his persistent and single-minded advocacy in behalf of the best interests of the charity. The amendment was—

"That a full and independent inquiry be at once instituted by the governors into the statement issued by the medical staff in June, 1900; the facility of intercommunication between the medical staff and the Board, including the demand of the former for direct representation on the Board; the position, functions, and acts of the secretary-director; and the constitution, rules, and management of the hospital generally."

This amendment was seconded by Sir JAMES CRICHTON BROWNE, who warned the Board that the medical press and the medical profession completely endorsed the action of the staff, while he warmly repudiated the absurd statements that medical influence on the Board would convert the hospital into a mere scientific laboratory. Of course, the staff were

strongly in favour of the amendment. Now came the surprise of the meeting. Battle was in the air, when Mr. BOWER, the solicitor to the Board, and himself a governor, announced that the Board would accept the amendment.

The amendment was accordingly put as a substantive motion and carried unanimously. A strong committee of governors and subscribers was at once appointed to choose a committee of inquiry, and this committee was instructed to place upon such committee of inquiry at least one physician or surgeon, one eminent lawyer, one man engaged in commercial or financial pursuits, one man (not a medical man) experienced in hospital management, and one other person. It was agreed to empower the committee to conduct the inquiry as the members may think fit, authorising them to request the Board and the staff to employ counsel if the committee of inquiry think necessary and to provide that all necessary and proper expenses of the inquiry shall be borne by the hospital funds. We congratulate the medical staff on at last obtaining the just and impartial inquiry for which they have been strenuously contending so long, and we congratulate the hospital on the prospect that it has of having emerged from the shadow under which it has lately lain. We trust that for the future the Board will show by their loyal coöperation with the medical staff in advancing the best interests of the charity in which they should both be profoundly and equally interested, that they have bidden a permanent farewell to the somewhat tortuous methods upon which it has been the duty of THE LANCET to reflect. For then the hospital, which must have suffered financially, and also in its power of ministering to the wants of a peculiarly afflicted and very numerous class, will soon recover the ground which it may have lost, and with a cordially coöperating Board and medical staff constantly in direct touch with each other will enter on a period of even enhanced prosperity.

Annotations.

"Ne quid nimis."

FOR THE BENEFIT OF SHOP ASSISTANTS.

A GLANCE at the legislative proposals of private Members of Parliament is often instructive and interesting, even though these proposals possibly, and, indeed, probably, may never become law. Among those recently introduced in the House of Commons we note one which is prompted by a desire to promote the health of a section of the community, and which, if it were to come within measurable distance of being passed, would probably excite considerable interest in that section and among those persons most intimately connected with it. One of its provisions meets with our cordial approval. It orders that "every shop shall be provided with sufficient and suitable accommodation in the way of sanitary conveniences, having regard to the number of persons employed there, and also, where persons of both sexes are employed, or intended to be employed, with separate accommodation for persons of each sex," and it institutes a penalty of not more than £5 for breaches of this regulation. No one can gainsay that the preservation of health and decency is a proper subject of legislative interference. All employers ought to provide that the work of those who serve them in any capacity should be done in perfectly wholesome surroundings and many employers other than shopkeepers neglect in this respect a duty which the law might well enforce upon them. In other particulars the Bill which we are criticising contains proposals as to which there may fairly be differences of opinion, differences which may easily be caused by the varying conditions in which the business of shops is carried on. These refer principally to the hours of labour. It is proposed that all shops shall be closed on one day in each week at or before one o'clock, an arrangement which would no doubt be welcomed by assistants desirous of attending football matches, morning performances at theatres, and otherwise amusing themselves, while on three other days in the week seven is to be the latest hour for closing, and upon the other two week-days nine and ten o'clock respectively. The number of hours to be worked in the week is fixed at 60, including meal-times, while an hour in the day is to be devoted to dinner and half an hour to tea. There are other regulations to limit work after closing time and there is a section which enacts that a child under the age of 14 years shall not be employed in or about a shop. The precise limitation of this last provision would presumably be ascertained by degrees after prosecutions. It hardly, however, seems to us necessary that a child under 14 years should be useless to parents or to neighbours should it be desired to find the child employment "in or about a shop." Apparently, however, the Bill would make all such employment, even by parents, illegal, although existing laws, if enforced, already protect children against being employed to the detriment of their education and against being treated with cruelty and oppression. With regard to the employment of children, the shortening of the hours during which shops may be kept open, and the whole question of shop work, we may point out generally that shop work is apparently still a popular form of employment with young people and that there is no sign that the hardships, real or imaginary, which the Bill before us seeks to diminish check the supply of shop assistants to an undesirable extent. We do not propose to criticise in detail a Bill which may never come within measurable distance of being passed. We would suggest, however, that service in shops differs widely in its severity according to places and seasons. The work may be trying at times to mind and body, but not all shops in town and country present the features of a fashionable London draper's establishment during what is known as a "sale," nor can the work done be easily compared with the work in factories, workshops, and mines which the law has recognised as a fit subject for its interference; while although shorter hours of work are undoubtedly more pleasant, especially to the young, than longer ones, it cannot be said that long hours of intermittent occupation are necessarily prejudicial to health. The question of what is or is not directly prejudicial to the health of the class sought to be benefited seems to us to be the most satisfactory test to apply to legislation of this kind which admittedly interferes with the liberty of the employer and the employed to regulate their relations by contract. We do not mean by this that the comfort or the enjoyments of the employed should be neglected, but rather that they should be regulated by other influences than that of the law—such as public opinion, the knowledge that the most considerate master will probably obtain the best workers, and the circumstances affecting individual cases. It must also be remembered that although leisure and freedom from restraint are very pleasant things, and much can be done, if leisure be granted, that is conducive to health, at the same time life is a serious matter and those who intend to work for a livelihood have to face life seriously, while it is quite possible to spend leisure unhealthily and equally possible to enjoy very little leisure and yet to remain in sound health. The difficulty, no doubt, is to frame a Bill for Parliament which will check abuses and remedy evils without at the same time injuring innocent persons unnecessarily. We

have not gone into the question of the financial welfare of the small shopkeeper who would presumably be most affected by such a measure as that to which we have called attention. We only suggest the test which should be applied to the individual clauses of Bills of this kind by the persons asked from time to time to pronounce upon them in Parliament. It might well be applied, for example, to such Bills as that to reduce the hours of miners to eight hours from bank to bank, an important change to which the House of Commons has already assented to the extent of allowing the Bill to be read a second time after a very brief discussion. The Bill dealing with the question of the early closing of shops introduced in the House of Lords by Lord Avebury is a very different measure from that which we have criticised above. It proposes to bring about the shortening of hours by the intervention of the local authority in districts and in respect of classes of shops with regard to which application shall have been made to the local authority in the manner which the Bill prescribes. It has been framed with a view to protect the health of shop assistants in those cases where it is liable to be endangered by long hours, and as such, in the experienced hands of Lord Avebury, deserves the serious consideration of Parliament.

UNSATISFACTORY VACCINATION.

THE Portsmouth Board of Guardians, and indeed Portsmouth itself, have recently been much perturbed by certain revelations as to vaccination in their union, and they are asking themselves whether, despite the fact that Portsmouth is, numerically speaking, a fairly well-vaccinated town, the population is not, *quâ* the prevention of small-pox, living in what they term a "fool's paradise." This disquietude has been brought about by Mr. H. P. Gaston, a medical member of the board of guardians, who, at a recent meeting, moved,

"That in view of the large number of children throughout the country who are inefficiently vaccinated by private practitioners (in Portsmouth it is officially estimated that they number more than 50 per cent.) this board petitions the Local Government Board to take steps that in future legislation such practitioners be compelled to vaccinate up to the same standard of efficiency as the public vaccinator, and that the Poor-law Union Association, and all boards of guardians throughout England and Wales, be asked to join in the petition."

Mr. Gaston stated that out of an average of 4760 children born annually in Portsmouth a little over 4000 per annum had been vaccinated. Of this number 1200 had been vaccinated by the public vaccinator, 800 fairly efficiently by private practitioners, and the remaining 2000 had, he alleged, been vaccinated in one place only. It is difficult to know from what source Mr. Gaston has obtained these figures as to vaccination in one place as no such return is required by the Vaccination Acts. But perhaps it is known that certain practitioners vaccinate in one place only, and that such practitioners have signed some 2000 certificates annually. Mr. Gaston regards the one-place vaccination as not only dishonest but as a disgrace to the noble profession to which he belongs, and he foresees for Portsmouth a terrible awakening in the future. Mr. Gaston had evidently the sympathy of his audience, and the motion above referred to was carried unanimously. Although we are not prepared to accept the statistics here in question without further evidence it is clear that Mr. Gaston has been instrumental in bringing to public notice in Portsmouth a very weak point in the administrative procedure of vaccination. This much-to-be-deplored practice of vaccinating in one place, and thus conveying a false sense of security to the person vaccinated, is one which all true friends of vaccination should unhesitatingly condemn. The public are unable to differentiate between vaccinations any more than they are in a position to know whether they are taking the proper dose of a drug. With them the fact of having been vaccinated confers immunity against small-pox, at least for a considerable period, but when the next wave of this disease passes over this country there may indeed, as Mr. Gaston observes, be a "rude awakening" for those who have some years previously been vaccinated in one place alone. It is quite true that such a vaccination confers protection for a time, but all evidence points to the fact that in order to confer adequate protection until re-vaccination is called for a scar of at least half a square inch should be produced and this scar is more easily and more safely procured by four separate insertions than by one. Those who practise this imperfect vaccination are likely to bring discredit upon the cause of vaccination and also upon themselves, and we should welcome some provision which would render such vaccination as this illegal. But the subject bristles with difficulties. In connexion with this subject of unsatisfactory vaccination we have received a communication from an American lady who has recently arrived in this country and who has had her child vaccinated in London. She alleges that the operation was performed with a domestic darning-needle which the medical practitioner did not sterilise or cleanse before using, and she asks if medical men "generally vaccinate in such a careless way over here." We trust that this lady's experience is exceptional and that the practice usually adopted is to wash the arm and to cleanse the instruments in the manner laid down by the regulations of the Local Government Board in the case of public vaccinators. There is no excuse for careless vaccination.

THE PLAGUE AT SOUTHAMPTON.

THE following are the details respecting the case of bubonic plague which is at present under observation at Southampton. The hospital ship *Simla* left Durban on Feb. 16th with invalids for Southampton, calling at Cape Town on Feb. 18th to take a few additional passengers. She arrived at Plymouth on March 12th, where it was reported that no infectious disease existed on board with the exception of two cases of enteric fever, one patient being an officer who was landed at Plymouth, and the other a member of the crew, a laundryman, who on arrival at Southampton on March 13th was removed to the isolation hospital there. In consequence of the precautions taken by the Southampton sanitary authority to have the earliest intimation of any suspicious case which might occur in the district, the authorities of the South Hants Infirmary had been requested to notify the medical officer of health should they receive into their hospital cases of glandular disease the cause of which could not be explained. On Sunday, March 17th, the house surgeon informed Mr. A. W. Harris, the medical officer of health, that he had under his care a Lascar suffering from abscess in the inguinal region who had been admitted to the hospital for operation. Mr. Harris saw the patient without delay and upon examination came to the conclusion, considering the whole of the surroundings and the history, that he should be removed to the isolation hospital for further inquiries. Suspecting that the case might prove to be plague Mr. Harris subsequently had an interview with the ship's surgeon, who informed him that the man was taken ill two days after leaving Cape Town. He had a temperature of 103·5°F., which afterwards diminished and then assumed a septicæmic character. During the early stage of his illness the man complained of a good deal of pain and tenderness over the inguinal region. The vessel on her arrival at Cape Town had not been alongside any quay or wharf, nor had the man in question been ashore. On the outward voyage of the *Simla*, however, the vessel had lain alongside the quays at Cape Town. The surgeon

stated that the case was not considered an infectious one, and he had not thought that it was plague. The patient was emaciated, weak, and distressed. A collection was made of material from the suppurating bubo and forwarded to the Local Government Board for bacteriological examination, the result of which when received confirmed the diagnosis of plague. The case is particularly interesting as showing what we believe has not happened before, the discovery of plague bacilli in pus in which large quantities of streptococci and staphylococci were present. The man is now convalescent. No other cases have occurred. All persons who had been in direct contact were isolated and were still under observation on March 26th. The nurses and others who had handled the patient were injected with Yersin's serum, and of the large number who received the injection only one complained of severe headache; the others felt no inconvenience worth speaking of. There is no direct history of infection, but there is good reason to believe that the patient, who was a baker's mate and had been in the habit of catching rats, must have obtained the infection by handling the rodents. The man's temperature at the hospital was practically normal. He had a large fluctuating swelling in the left inguinal region. He is now progressing favourably.

AEROPHAGIA OR AIR-SWALLOWING.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 1st M. Albert Mathieu and M. R. Follet communicated a paper upon a comparatively unrecognised condition—aerophagia or air-swallowing. The term *aérophagie* was first used by M. Bouveret.[1] In a hysterical young woman he observed spasmodic movements of the pharynx, during which she noisily swallowed air. From time to time the distended stomach relieved itself by a voluminous eructation of odourless gas. Later M. Pitres showed that *aérophagie* was frequent in the dyspepsia of nervous patients who were not manifestly hysterical.[2] Aerophagia is usually confounded with flatulent dyspepsia which is then treated with carminatives or antiseptics without avail. In the mild forms of aerophagia the patients complain of slight dyspeptic symptoms. Some time after meals there is a feeling of weight in the stomach and of more or less marked malaise. Soon discharges of odourless gas take place, during which there is sometimes a painful sensation of epigastric tension. As many as 30 or 40 eructations take place, and in some cases even hundreds. Such a history absolutely establishes the diagnosis. Gastric fermentation could not furnish such a quantity of gas. Pressure on certain regions, particularly on the epigastrium, causes crises of aerophagia by reflex action. The eructations succeed one another indefinitely as long as the pressure is maintained. By observing the movements of the larynx it may be seen that each eructation is preceded by a movement of deglutition. Sometimes the stomach becomes noticeably distended, sometimes not. In some cases only one eructation corresponds to four or five acts of deglutition. Other methods of producing the attacks are titillation of the pharynx and pressure on the larynx and on the spinous processes in the neighbourhood of the third dorsal vertebra. In certain cases aerophagia takes a grave form: it produces vomiting, aggravates the dyspepsia, and leads to emaciation. The following cases are examples. A man, aged 23 years, had been addicted to alcohol for some years and he became dyspeptic. To relieve the discomfort which he experienced after meals he returned his food. More or less unconsciously he distended his stomach by swallowing air and in expelling this he produced regurgitations of food which sometimes lasted the whole afternoon. Soon true vomiting supervened and he became weak and emaciated. At the age of 26 years, when he entered hospital, eructations could easily be produced by pressure on the epigastrium or in the supra-sternal hollow. The patient in the second case was a very nervous woman, aged 56 years, who suffered from membranous colitis. She complained of interminable noisy eructations which came on after meals. The abdomen was relaxed, there was ptosis of the liver, and the gastric region was tender. Pressure on the epigastrium produced an attack of aerophagia with noisy eructations. The patient discovered this fact three years before when rubbing herself. It was explained to her that the eructations were simply the result of aerophagia, and rest in bed, light diet, and codeia were prescribed. Great improvement ensued. The pathogenesis of aerophagia seems to be as follows. A neurotic subject suffers from slight dyspeptic symptoms, of which he is very observant. He is excessively sensible of gastric distension and gurglings and endeavours to relieve himself by expelling gas. A movement of deglutition, usually unconscious, opens the cardiac orifice and allows an eructation, which gives relief. Unconscious aerophagia provokes a painful sensation of distension which is relieved by eructation and followed again by aerophagia. As to treatment, it is sometimes sufficient to explain to the patient the nature of the process, but in advanced cases of hysteria more severe means are necessary, at times even isolation. The dyspepsia should be treated in the usual manner. In horses aerophagia is a recognised disorder and is known to horse-dealers in France as "tic à l'air." As aerophagia, which is a neurotic disorder, is little known in French medical literature, still less recognition is to be expected in English. However, in the Edinburgh Hospital Reports of 1895 Dr. John Wyllie has described the cases of neurotic individuals who acquired the power of creating by muscular action negative pressure in the œsophagus and thus sucked air into their stomachs. In THE LANCET of August 1st, 1896, p. 304, Dr. G. A. Sutherland published a case of this kind. Dr. Wyllie terms this condition "air-sucking" and distinguishes it from air-swallowing. The case of one of Barnum's "freaks," who could by swallowing air pass rapidly from the appearance of emaciation to corpulency, may also be mentioned.[3]

[1] "Aérophagie hystérique," Revue de Médecine, 1891, p. 146.
[2] Progrès Médical, Jan. 12th, 1896.

ST. MARY'S HOSPITAL.

A LETTER which appeared in the daily press of March 23rd signed "Alfred de Rothschild" deals with a matter which merits the careful consideration of those who have it in their power to give. The letter recalls the fact that the executors of the late Mr. Siegfried Rudolph Zunz have awarded a sum of £25,000 to St. Mary's Hospital for the completion of the Clarence memorial wing of the hospital at Paddington, on condition that the hospital authorities shall within six months raise a further sum of £25,000, making £50,000 in all, this being the sum which the completion of the building is estimated to cost. The Clarence memorial extension was commenced nine years ago and continued until 1898, when, the basement being finished, lack of funds stopped the works. The two most important features which the new building, when completed, will present are new wards and a new home for nurses. The need for the latter will be specially understood when we state that at present all the night nurses and some of the day nurses have to be lodged in houses in the neighbourhood of the hospital. It is therefore most important that the £25,000 should be raised within the specified time or else the offer of the executors of the late Mr. Zunz will lapse, and intending donors should remember that, in the words of Mr. de Rothschild, every £1 which they give really adds £2 to

[3] THE LANCET, Feb. 12th, 1898, p. 451.

the hospital funds. London grows day by day and coincidently with its growth appears that of sickness, pain, and accident. We therefore earnestly hope that the sum necessary for St. Mary's Hospital to benefit by the Zunz bequest will be forthcoming even although the present times are hard for those who have to depend upon charity. Subscriptions may be sent to Mr. Alfred de Rothschild, the treasurer, at St. Mary's Hospital, Paddington; to the bankers of the hospital, the London and County Banking Company, Limited, Connaught-street, Edgware-road, London, W.; or to the secretary at the hospital.

THE HOMELESS IN MANCHESTER.

IT comes with something of a shock to learn that there are so many of the "submerged" in Manchester. One night about a week ago the police raided some brick kilns in Cheetham, Manchester, and apprehended 54 men and youths whom they found huddled together for warmth by the oven fires. "These wretched outcasts," as they are called in a newspaper report, were charged at the city police-court on March 13th with "sleeping out" and sentenced to terms of imprisonment varying from a day to a month. On some of them, perhaps, sympathy would be wasted, but others may be homeless without much fault of their own. In the latter case it would seem absurd to punish for the poverty that cannot provide a bed under a roof if it were not for the existence of the casual ward which theoretically is equal to all demands; but it is sufficiently unpopular to make many prefer imprisonment.

ARSENICAL POISONING BY BEER IN THE COUNTY BOROUGH OF SALFORD.

THE report of Mr. C. H. Tattersall, the medical officer of health of the county borough of Salford, has been printed and it is of special interest as dealing with that area in which the remarkable and now happily historic outbreak of arsenical poisoning by beer occurred. The report includes Professor Delépine's report on the chemical investigation and Mr. Tattersall has added Dr. E. S. Reynolds's account of the clinical symptoms which appeared in THE LANCET of Jan. 19th, 1901, p. 166, while some valuable information supplied by brewers, sugar manufacturers, acid manufacturers, and maltsters is appended. Professor Delépine arrives at conclusions which are already well known—namely, that the outbreak was due to a toxic amount of arsenious acid or arsenites in the beer consumed, that the toxic amount of arsenious acid was derived from brewing-sugars, and that the arsenic present in the sugars was due to the use of impure sulphuric acid manufactured from arsenical pyrites. He considers that when beer, sound or otherwise, does not contain more than one-hundredth of a grain of arsenic per gallon in the form of arsenious acid or of an arsenite it is probably quite a safe drink. When regard is had to the wide distribution of arsenic in nature and of the probability of its normal occurrence in food products in minute amount some definite limit should be laid down as to what may be regarded as a poisonous quantity. Mr. Tattersall suggests that it would be unreasonable to forbid the use of substitutes, providing that some means are devised by which the carelessness of one or more individuals can be prevented from endangering the lives and health of the public. At the same time, it should be recognised that any person replacing a natural substance by a manufactured article in the preparation of any foodstuffs takes upon himself the responsibility of seeing that no injury should ever result from such substitution. Mr. Tattersall holds, further, that the Food and Drugs Act should be amended so as to make the contamination of foodstuffs with poisonous matter in appreciable quantity, whether to a dangerous extent or not, and whether to the knowledge of the seller or not, an offence within the meaning of the Act, as it is obvious that the presence of a poison in a small quantity is often an indication that there is distinct danger of a dangerous quantity being introduced at any time. Lastly, Mr. Tattersall points out that one of the lessons of the outbreak is that some improvement should be made in the arrangements for the notification to the health authorities of outbreaks of disease, and that there is urgent need for some provision whereby regularly scientific investigation into the constitution of foodstuffs and their adulterants can be carried on continuously. Apart from beer these are points which the Royal Commission on Arsenic Poisoning were appointed expressly to inquire into with a view to better and more protective legislation.

A LOW ESTIMATE OF SANITARY MEDICINE.

THE sanitary authority of Axminster has distinguished itself by devising a new principle for selecting candidates for the office of medical officer of health. The principle is that of accepting the lowest tender. The applicants for the office were asked to name their terms and the appointment was given to the gentleman who asked least for his services. Save as a reward of possible modesty this seems to us an entirely unworthy procedure, raising the strongest doubt as to the fitness of the sanitary authority for the discharge of its responsible duties. The function of such an authority is to save its constituents from preventable disease and death, and the notion that this function is discharged by electing the medical man who charges least for his services is not one which we should like to apply to a dairyman or a druggist. We gather that the Axminster rural district includes a population of 10,000 and covers a sanitary area equal to 64½ square miles, for which the late medical officer of health received £45 per annum, equal to 1*d*. per head of the population, or ¼*d*. per acre, or 14*s*. per square mile. The late medical officer of health complained that he had held the office for 13 years and obtained no notice of the termination of his engagement. The ethics of this remarkable procedure on the part of the authority are of a piece with the intelligence which it had displayed and they should be duly studied by the Local Government Board. The interest of medical officers of health and of the population alike requires that appointments should be made on very different principles.

HYDROGEN A NORMAL CONSTITUENT OF THE AIR.

THERE seems little room for doubt that hydrogen is a normal constituent of the air to the extent of two in 10,000 parts by volume. Normal air, therefore, contains hydrogen to the extent of about one-half of the normal amount of the carbonic acid. The difficulty of detecting and estimating hydrogen in such a large volume of air would account for the fact that its presence hitherto in the atmosphere has not been determined for certain. This difficulty has been overcome by that untiring investigator, M. Gautier of Paris, and his success has led to some interesting revelations. It should be remarked, however, that Professor Liveing and Professor Dewar in their experiments on the liquefaction of air obtained a fraction which consisted of nearly one-half hydrogen and which by well-known means was made to explode. M. Gautier in his researches relied upon combustion methods, which were carried out with remarkable precision, and these demonstrated the presence in addition to hydrogen of hydrocarbons, at any rate in town air and country air. The hydrocarbons diminished in air taken from the region of mountain heights and far out at sea, but even at these places the hydrogen remained approximately two parts per 10,000. The air of

Paris contained, in addition to hydrogen, marsh gas to the extent of 2·2 parts per 10,000 with traces of carbon monoxide. During the investigation it was shown that in the absence of vegetation and soil the proportion of marsh gas diminished. Thus in mountain air the quantity found was 2·19 volumes per 100,000, as against 11·3 for the air of forests and 22·6 for the air of Paris; while out at sea the air is free from hydrocarbons but still contains two volumes of free hydrogen in 10,000. Hydrogen would therefore appear to be a constant constituent of the air. The origin of the hydrogen is undoubtedly geological and so also, in a measure, is the marsh gas. Methane is often evolved from many soils and from coal and other minerals, while hydrogen, it is well known, is occluded in rocks. It is interesting to speculate whether the hydrogen would accumulate in the upper strata of the air or as to whether the force of gravity of the earth would be sufficient to chain such light elements as helion and hydrogen to its surface. Some hold that their escape would be possible, and in accordance with this view there would be a constant stream of the light gaseous elements from this earth into inter-stellar space.

THE EPIDEMIC OF SMALL-POX AT GLASGOW.

No section of the public watches the contest with small-pox in Glasgow with more interest than does the medical profession, and there is no feature of that contest more interesting to its members than the call upon all practitioners to come to the help of the authorities in a house-to-house visitation with a view to the immediate revaccination of all un-revaccinated persons and *a fortiori*, of course, the vaccination of the unvaccinated. There is a certain red-tapeism in the arrangements for public vaccination which is eminently out of place at a moment when Glasgow is threatened with the gravest inconvenience and loss from a raging epidemic. That revaccination should be recognised only when done at certain stations by a few selected practitioners is a very doubtful plan for effecting the revaccination of a large community. We can only rejoice that the authorities of Glasgow have broken through this ritual and have taken into their service every willing practitioner. It is a matter of satisfaction, too, that the call of the Lord Provost has been responded to promptly by 200 practitioners who for the modest—too modest—fee of half-a-crown are to visit the homes of the people and to offer revaccination to them. The medical profession might have sulked in its tents. It might have given the anti-vaccinationists their turn and have brought down on them the just indignation of a misguided community in their suffering from disregard of the plainest teaching of experience and of medical science. But that is not the manner of the medical profession. And we can only trust that its whole energy and interest will for the next few weeks be devoted to this supreme effort to save a great city, which in many ways of sanitation has set an example to the United Kingdom from the natural effects of its own improvidence, assisted by lax and imperfect legislation. We look to this army of medical volunteers for more than a perfunctory discharge of its great duties. They will have a great opportunity of overcoming prejudice and of removing ignorance. They are performing an operation which even Leicester authorities do not despise in their officials and which *for more than 50 years sufficed to protect every nurse and other official of the small-pox hospital of London from the dire disease*. Of course, the operation in this case was done well. It was done so as to "take," and until revaccination "takes" it cannot be said to have been done. Moreover, it is possible now to do it with such precautions of cleanliness and antisepticism as to reduce the soreness and inflammation of the process to a minimum. The use of aseptic instruments, ablution of the skin with soap-and-water, followed by cleansing with an antiseptic solution, should precede the punctures which in no case should be less than four. We gather from a writer in one of the papers that some revaccinated persons say that they would prefer small-pox! While in favour of all reasonable measures to minimise temporary inconvenience we ask each person to look at the alternatives, and especially at the 200 actual deaths of those who have already paid the penalty of neglect of a sure safeguard.

ACUTE CEREBRAL DEGENERATION SIMULATING MENINGITIS.

PROFESSOR W. G. SPILLER of the Philadelphia Polyclinic has published in the March number of the *Journal of Nervous and Mental Diseases* a case of the above which is interesting because clinical symptoms of meningitis existed for six days before death and yet no signs of meningitis were found at the necropsy. On the contrary, the morbid changes which were found suggested an acute degeneration of the cerebral nerve-cells similar to those observed in amaurotic family idiocy. The case was that of a boy, aged eight years, the fifth child of his parents born at full term but after a difficult labour lasting three days. He was of feeble mental development, did not know the alphabet, and could not talk or dress himself. The senses of sight and hearing were good. He was undersized, he had some scoliosis of the spine, and he walked with a spastic gait. He was free from convulsions. He was admitted to the Training School for Feeble minded Children in Philadelphia in March, 1900. A fortnight later he appeared to be ill with pain, diarrhœa, and vomiting. He was restless, the skin was hot, and the temperature was 102° F. The pulse was rapid but there was no cardiac murmur. The lungs were normal and the liver and spleen were not enlarged. Urine was passed involuntarily. Next day he became more restless, there was abdominal rigidity, and the skin was hyperæsthetic. Food was retained. Photophobia and sluggishness of pupillary reaction followed, the abdomen was retracted, and the legs were drawn up. He grew worse after this, was delirious and very restless, and developed an erythema of the right knee and calf. There was no albuminuria. Coma supervened and the erythema increased. Only rectal feeding was now possible. The diagnosis was cerebro-spinal meningitis. The child died on the sixth day of his illness. The following conditions were observed at the necropsy. There were several purpuric spots about the thighs, knees, and arms. On removing the calvarium a large amount of cerebro-spinal fluid, tinged with blood, escaped. The cerebral hemispheres were œdematous, but there were no appearances suggesting acute meningitis. No miliary or other tubercles were present. The heart appeared to be normal except for a little paleness of the myocardium. The lungs were slightly œdematous, but crepitated and had no areas of consolidation. A few slight submucous hæmorrhages were present in the stomach and kidneys. There was a small supernumerary spleen. Microscopical examination of the brain and spinal cord showed nerve-cells in a state of acute degeneration in the anterior and posterior cornua, cranial nuclei, and cerebellar and cerebral cortex. In the cerebral cortex the giant pyramidal cells of Betz were especially degenerated and altered. The cell-bodies were swollen and rounded, many of the dendritic processes had disappeared, the chromatic granules were not to be seen except in a partially disintegrated condition immediately around the nuclei, and often the nuclei were displaced to the periphery of the cells. All the multipolar cells of the anterior cornua in the spinal cord showed these changes in a marked degree, recalling the appearances described by Hirsch and Sachs in

amaurotic family idiocy. Various short bacilli were found in the nerve-tissues. Spiller refers to another case observed by him in conjunction with Dr. J. McCarthy where similar changes were found and that, too, was in a feeble-minded child. The theory of a toxic causative agent seems to be suggested in the present instance, the disease having analogies to the meningitis serosa described by Finkelstein and Seitz, in which bacilli were found in the cerebro-spinal fluid.

THE BEER BILL.

ON the night of March 27th the Beer Bill passed its second reading in the House of Commons by the substantial majority of 112. Put shortly the Bill is intended to enable the consumer to know what he is not drinking. "Beer" is to be divided into two classes, somewhat on the logical process of dichotomy—namely, malt beer and part malt beer. Malt beer means that which is brewed from barley, malt, yeast, hops, and water. Part malt beer does not mean this. These are admirable provisions to our mind and we would fain see them extended to all classes of food. Substitutes are generally harmless and often palatable, but the consumer should know what he is getting. If, for instance, he likes to use cotton-seed oil for a salad let him do so, but he should not have cotton-seed oil palmed off upon him under the impression that he is buying olive oil.

THE COLONIAL SECRETARY AND THE SANITATION OF OUR WEST AFRICAN COLONIES.

THE unhealthiness of certain portions of the West Coast of South Africa has long been a matter of notoriety, and an enormous number of relatives and friends of the workers on that coast have had good reason to deplore the fact. So much, indeed, has the deadliness of this district been officially recognised that higher pay is awarded and longer leave granted there than is the case elsewhere. But if the chambers of commerce of London, Manchester, and Liverpool, assisted by the young but vigorous Liverpool School of Tropical Medicine, have their way all this will soon become matter of history. Mr. Chamberlain has lent more than a sympathetic ear to these bodies, which waited upon him recently at the Colonial Office, and he has propounded a scheme which should bring forth in one or another fashion an abundant harvest. The deputation had apparently a little scheme of its own, but such scheme did not in its entirety commend itself to Mr. Chamberlain's statesmanlike mind. Clearly, in the view of that mind, the scientific expert is an admirable individual but perhaps a little too given to utopian ideas. By all means let the scientific expert be the mainspring of an expedition to the West Coast colonies, but let his ideals be applied by the representatives of the several chambers of commerce who will accompany the expert, and let there also be a representative of the Colonial Office who shall, as it were, focus the information obtained and bring it back for the benefit of the Colonial Office. This was, in effect, Mr. Chamberlain's scheme, and it is apparently soon to be carried into effect. With a proposal to make a "house-to-house" inspection of our West African colonies Mr. Chamberlain was not in entire accord. He saw the danger of too sudden a change which might work incalculable harm and there is no doubt that a gradual adaptation is a wise method. There is, however, one particular in which we venture to differ both from the Colonial Secretary and from the deputation. As we understand it, it is proposed to have but one sanitary adviser upon the Commission. We would suggest, however, that, having regard to the importance of ascertaining, as far as may be possible, the causes which are responsible for the undoubted unhealthiness of the districts concerned, a trained epidemiologist used to etiological methods should be included. With the view of meeting Mr. Chamberlain's desire to obtain an estimate of the necessary cost of the proposed reforms the services of a sanitary engineer versed in estimating the cost, and devising schemes, of water-supply and sewerage are also required. Both of these gentlemen should be selected with the greatest care, and the importance of their working amicably together should not be lost sight of. This proposal would still leave the scientific element in a decided minority, and hence there would be no fear that the practical side of the question would be overlooked.

A MEMORIAL TO THE LATE DR. LEECH.

A STRONG desire has been expressed to honour in some permanent form the memory of the late Professor D. J. Leech, and many of his friends have offered to help in the furtherance of a suitable scheme for this purpose. Those who were in the confidence of their late friend believe that such a memorial could take no better form than that of carrying out a project in which Dr. Leech was deeply interested, and with which he intended to occupy himself had he lived a few years longer—namely, the provision of an endowment for the professorship of materia medica and therapeutics in the Owens College, a chair which he himself occupied for nearly 20 years with much distinction. Owing to his unexpected death last summer at the comparatively early age of 60, Dr. Leech was unable to fulfil his intentions in such a way as to enable the chair to be founded at once; but in his will he provided for the future by leaving a sum of money which will ultimately be available for the endowment of the chair. It is now the wish of the late Professor Leech's friends and colleagues to provide for the immediate endowment of the professorship, and to associate it with his name. The Council of Owens College have decided that the chair shall be called the Leech Professorship of Materia Medica and Therapeutics, and all who wish to join in the memorial are invited to subscribe. Subscriptions may be sent to Dr. E. M. Brockbanks, 3, St. Peter's-square, Manchester, honorary secretary; to Dr. J. Dreschfeld, 3, St. Peter's-square, Manchester; to Dr. D. Little, 21, St. John-street, Manchester; or to Mr. W Whitehead, 17, Market-street, Manchester. We think that many of our readers may like to testify their appreciation of Dr. Leech's services to medicine, both scientifically as a pharmacologist and practically as a thoroughly useful member of the General Medical Council, by contributing to found a professorship to his memory in the college which he served so faithfully. About £2000 are required, upwards of one-half of which sum has already been received.

THE COAL SMOKE ABATEMENT SOCIETY.

WE have received the annual report for the year ending Dec. 31st, 1900, of the Coal Smoke Abatement Society. The society is doing most useful and admirable work, and since its formation in March, 1899, no less than 2700 observations have been made by the society's inspector on smoking chimneys in various parts of London; offences have been proved in 162 cases, and penalties have been inflicted, amounting altogether to the large sum of £750, of which many have been of small amount. During the year 1900 the inspector reported to the committee 1742 observations of offending shafts, and by order of the committee 1010 formal complaints were presented, as the nuisance was not abated, to the local vestries, borough councils, and the Port Sanitary Authority of London. In 125 cases proceedings were instituted and fines imposed amounting to £494 13s. The report also states that the owners of the numerous and increasing class of trade furnaces and chimneys have profited by the conviction of other offenders

and have taken steps to secure themselves against prosecution. We are very glad to hear this, for in the West-end of London, at any rate, it is not the factory chimney which is the chief sinner, but the chimneys belonging to such trades as bakers, restaurants, and big hotels, to say nothing of the electric lighting companies. The excuse generally put forward about not being able to get Welsh coal is no excuse at all. The section of the Public Health Act concerned with smoke says nothing about Welsh coal, but merely mentions black smoke. Fines should certainly be imposed of such magnitude as to make it obvious to the owner of an offending chimney that it will be cheaper for him to take steps to prevent such chimney vomiting filthy smoke than to run the risk of being fined. That such steps can be taken is shown by the example of the Nottingham lace manufacturers. They found that the emission of black smoke spoiled their goods, and therefore set themselves to work to find a means of curing the nuisance. This was done with such success that nowadays a smoky factory chimney in Nottingham is unknown. If this result can be attained in the case of factory chimneys it can also be secured by the expenditure of money in the case of other chimneys. We would add that the society at present has only one inspector. If it could afford to pay another the excellent work already done might be largely increased. Subscriptions will be gladly received and acknowledged by the honorary treasurer, Dr. H. A. Des Vœux, 14, Buckingham-gate, S.W.,

THE LONDON COUNTY COUNCIL WATER (PURCHASE) BILL.

MR. LONG, the President of the Local Government Board, recently received a deputation from the London County Council on the subject of the London water-supply. He may have felt that as a Minister in a strong Government it would have been an abuse of power not to receive the deputation, but in the circumstances he would have been justified in so doing, and his action would not have been mistaken for intolerance by those who really understand the questions at issue Mr. Long then definitely declined to support the pretensions of the London County Council to legislate for "Water London" in a manner directly opposed to the interests and to the wishes of a majority of the public authorities who represent the extra-metropolitan districts After this the London County Council cannot be surprised that their Water Bill met with ill success in the House last Tuesday. The interests of the people of London will be best guarded by the metropolitan boroughs and by the City of London. The City representatives have already spoken. The borough councils will undoubtedly give their attention to the matter We regret that the London County Council persist in wasting the ratepayers' money in useless Parliamentary proceedings.

DANGEROUS FLANNELETTE.

OUR attention has more than once been drawn to the extreme inflammability of what is a very popular article of clothing in the cold season of the year—namely, flannelette. As is well known, it is a soft fluffy fabric and is used largely as a material for making nightshirts on account of its warmth, especially for children. We have nothing to say against its qualities of keeping the body in comfort and warmth, but that it is a dangerous material for the purpose has been very sadly shown in more than one instance. It ignites with the most dangerous ease, burning with a hot bluish flame not unlike the flame of burning alcohol, and once alight it is well-nigh impossible to extinguish it. The latest disaster arising from the use of this material was in the case of a child, aged six years. The poor little fellow was clothed in a flannelette nightdress, and by some means or other he had too nearly approached a gas stove, with the result that he was soon enveloped in flames. He evidently had been left alone, for his mother had rushed from another room to his assistance on hearing his screams. He was so badly burned that he died on the following day. We have tested this material again and again, always with the same result. It takes fire instantly owing to the fluffy and porous nature of the material, a hot blue flame shooting along the surface and increasing most rapidly in size and in intensity. It cannot be too widely known that flannelette is a most dangerously inflammable material, and that great care needs to be taken to prevent it from coming anywhere near a fire, candle, or gas flame. In any case, whatever the clothing may be, children should always be protected from such a possibility by adopting fire-guards. There is no doubt that when once flannelette is ignited the fire can only be put out and a horrible sequel prevented with the greatest difficulty. The life of the person dressed in it, according to the experience of such cases, is hardly ever saved, than which it is difficult to imagine a worse indictment against flannelette.

THE reports for the year 1900 of the Committee of Management and of the Medical Committee of the Dental Hospital of London were considered at the annual general meeting of the governors held at the new hospital on March 28th. From the former report it appears that the new Dental Hospital has been erected at a cost of nearly £50,000, exclusive of the sum of £42,000 paid for the site. The old building has been sold for £18,500. From the latter report it appears that no less than 69,176 cases were attended to at the hospital during the year, of which 28,752 required operations which were performed under anæsthetics. This is a steady increase upon previous records.

THREE telegrams, dated March 20th, have been received at the Colonial Office from the officer administering the Government of Western Australia. The first states that up to date the following cases of plague had occurred:—In whites eight cases, seven being in adults and one in a child, with no deaths, one Chinese male who died; total cases nine. In addition a very suspicious death had occurred of a white man, which death, telegram No. 3 states, was pronounced to be due to plague. Telegram No. 2 states that the governor was confident that owing to the rigorous measures adopted the plague would shortly be stamped out.

ADVANTAGE is being taken of the expected visit of their Royal Highnesses the Duke and Duchess of Cornwall and York to New Zealand to hold a gigantic bazaar at Wellington, the capital, in aid of a home for incurables. Lady Douglas, who will preside over the Empire Stall, has started a memorial fund with the object of adding a wing to this home, to be called the "Empire Memorial Wing" in honour of the brave New Zealanders who have lost their lives in South Africa in defence of their sovereign and country.

AT the annual general meeting of the Medical Graduates' College and Polyclinic on March 26th a considerable portion of the time was occupied in a discussion raised by Dr. F. W. W. Goodsall on "The Really Dangerous Position Financially of the College." On this point the honorary officials spoke at length, with the result that the council's report and balance sheet were duly passed.

A TELEGRAM from the Governor of the Cape of Good Hope, Sir W. F. Hely Hutchinson, received at the Colonial Office on March 25th, states that for the week ending March 23rd there were admitted 46 cases of plague. The deaths numbered 21, the suspects three, and "contacts" 394.

THE official programme of the proceedings to take place at

the British Congress on Tuberculosis, to be held in London this year from July 22nd to July 26th, has just been issued. We have no space this week in which to make more than the bare announcement.

GUY'S HOSPITAL has received a grant of £2000 from the Goldsmiths' Company towards the special requirements of the hospital, which include a building fund of £180,000.

THE MANAGEMENT OF HOME MILITARY HOSPITALS.

BY SURGEON-CAPTAIN W. PUGIN THORNTON,
ROYAL EAST KENT YEOMANRY CAVALRY.

THE management of military hospitals in South Africa, judged mostly by civilian eyes, has of late exercised many minds, so much so that a Royal Commission of inquiry was granted to examine into all the points at issue. Having acted for a year during the Boer war as medical officer at a station hospital in England containing more than 100 beds it may be of interest if I point out some of the instances in which I believe improvements on the present home system might be made.

In the first place, it should be the rule of the authorities of the Army Medical Department that no medical officer should be put in charge of a station hospital unless they were satisfied that his knowledge of medical and surgical practice was thoroughly sound and fully up to date. Should an officer not be considered fit for the post of senior medical officer then he should not be given rank above a major, or even a captain, and should be allowed to retire on full pension if he so desired.

The senior medical officer (S.M.O.) in charge of a military hospital has every morning to send a certain number of sick soldiers into the wards. Each one has a diet sheet at the head of his bed, which has a space filled in with the title of the complaint which the senior medical officer has diagnosed the man to be suffering from. Should the junior medical officer under whose care the sick soldier is placed not agree with the diagnosis of his senior he cannot alter it without referring the matter to him This is all right if it occurs only once or twice, but frequent references to the senior medical officer are apt to become, to say the least, tedious. And if he points out to the senior medical officer the faulty diagnosis and the latter does not agree to change the title of the disease nothing more can be done by the junior medical officer. Should he persist, however, in drawing attention to a number of cases he will be sure to be told that he is impertinent, that he is to mind his own business, and that the senior medical officer sees no occasion to alter his opinions.

When cases of faulty diagnosis occur through the want of sufficient training on the part of the senior medical officer, such palpable errors not only cause opprobrium to fall upon the profession, but give much dissatisfaction to those connected with the work of the hospital. Undoubtedly the senior medical officer should be reasonably perfect in his work, so that junior officers can appreciate his work with satisfaction and be able to appeal to him with a feeling of safety in any medical or surgical dilemma, and also—and this is not the least important item—that the soldier can rely upon the treatment of his malady being safe and likely to be beneficial.

Of course we are all liable to make mistakes. I made a glorious one during my work in the station hospital by thinking that the rash which mostly covered a man's body was small-pox modified by vaccination It was a case of iodine rash—and this rash I had caused myself by having frequently painted a quantity of iodine on his leg and neck. I proved this by bringing out the rash a second time. I felt so confident at first that it was a case of small-pox (there were nine cases in the neighbourhood to frighten me which had been diagnosed as chicken-pox), the man having slight fever for a day, that I vaccinated all in the hospital. Certainly this was a mistake on the right side, for to overlook a case of small-pox is a terrible calamity. But to make blunders continually is another matter.

The best suggestion which I can offer is that the Army Medical Department should assist army medical officers to continue their medical and surgical studies from the time that they enter the service to the day on which they are promoted to the rank of lieutenant-colonel. If every medical officer spent a month in every possible year up to the date of his promotion to lieutenant-colonel at a large general hospital, possibly with school attached, then by the time his turn came to take charge of a station hospital he should be reasonably perfect in his work.

Medical officers should not be bothered with examinations. Often examinations do not show the practical worth of a man. Rather let a surgeon from year to year be judged by his work. Of course, it should be insisted upon that medical officers did not waste their opportunities of gaining fresh knowledge during the annual months in London or elsewhere. Professors of the civil hospitals in consideration of the fees paid would ensure that there was no waste of time, reporting if the post-graduate's application to work was not satisfactory. It is universally acknowledged that a medical man acquires knowledge far more readily and of greater use after he is qualified than he does when he is a student. If year by year a medical officer, after two or three such months of general work, varied his subjects, one year attending a lunatic asylum (very necessary for the quick appreciation of soldiers pretending to be insane), another year an eye hospital, another year a throat and ear hospital, another year a hospital for women and children (for the sake of those he has of necessity to look after), another year at Netley Hospital, and would give some time to the work of a medical officer of health, then the frequent statement that an army surgeon knows "next to nothing" would be a saying of the past. They would after such varied study, with the military hospitals in which to amplify their work, become superior in medical and surgical knowledge to their brethren in civil life, and the day would come that no combatant officer would ever want to call in a civilian practitioner to attend his family, so great would be his faith in his brother officer. It is presumed that special pay would be granted to medical officers during these annual months, and that all the civil hospital fees would be paid for them, also that weekly medical journals would be provided. Perusal of these greatly helps to keep one fresh in professional knowledge. Medical officers should also be encouraged to report "interesting" cases in medical journals. Doing so increases a man's accuracy in, and his love for, his work, besides often putting before him or other members of the profession some knowledge which they have not had the opportunity of acquiring. Every station hospital, also, should have a fixed table with a good microscope ready for immediate use, and a complete case for testing fluids.

The diets for soldiers in hospital who are able to eat solid food are known by the names of "chicken," "convalescent," "roast" (which includes joint, chop, or steak), and "varied." The "chicken" diet allows for dinner half a chicken, which must not weigh less than eight ounces and the "convalescent" diet allows 10 ounces of meat (with bone), and each has four ounces of bread and eight ounces of potatoes. The "convalescent" diet, in addition, has 15 ounces of soup, which contains four ounces of mixed vegetables. The "roast" diet has its bread increased to six ounces, and in addition to the eight ounces of potatoes has four ounces of vegetables Each of these three diets gives a very good dinner, but a far better one is the "varied" diet. This has 15 ounces of roast or stewed meat (with bone), six ounces of bread, 14 ounces of potatoes, and six ounces of vegetables. A curious regulation with regard to this latter diet is that no extras are allowed, so that the medical officer must not put upon the diet sheet such things as soda water, eggs, or custard pudding &c. Should he do so, perhaps desiring his patient to have a drink when he is thirsty or something to eat in the night, he may be charged with the cost of each extra ordered notwithstanding that he has written a history of the case. Should the medical officer order extras with other diets (say, a custard pudding with the "convalescent" diet) then the regulation is that he must write a history in the case-book, and note upon a special blank space on the diet sheet the page in the case-book on which he had written a history Evidently by this compulsory writing of a history it looks as if the intention was to deter medical officers from giving extras, however necessary they might consider them to be. Of course, such serious cases as enteric fever, and so on, should have histories written, but it is waste of time to write long notes on all sorts of cases. If the existing regulation is solely for the

purpose of stopping extra nourishment being given, I have no hesitation in saying that the regulation serves its purpose, and is not an ennobling one for the service.

In relation to the question of ordering extras it is found that in nine cases out of ten a sick soldier who is able to enjoy his food eats the whole of his bread-and-butter at breakfast and dinner meals, leaving only the pint of tea for his last meal. It is the custom to serve the bread-and-butter rations in the morning. During an epidemic of influenza, lasting from November, 1899, to the spring of 1900, I had over 500 cases of this disease passing through my hands, a few of them ending fatally. I found it desirable in every case to give stimulants (in the shape of egg-flip), never knowing during that epidemic how serious each man's illness might be. To get over the difficulty of writing more than 500 medical histories, and to save the waste of time, I used to mark the diet sheets with the number of a certain page in the case-book. On this page I had written the history of one case of influenza, adding to my notes that, as by far the greater number of the cases of this disease were nearly alike, I should make this one history stand good for the greater number. It was doubtless very wicked of me, but it was consolatory to be thus able to save my regimental conscience and at the same time to be able to give more time to more useful work. It may be hoped that before long the Army Medical Department authorities may see their way to trusting medical officers more fully, allowing them to give extras when they consider it desirable and not forcing them to write histories of cases which are of no use to anybody, only being, if waded through, a waste of time to read. I acknowledge that every hospital surgeon is liable at times to be guilty of ordering excessive diets for his patients. It is so in civil hospitals. But, I think, experience shows that it is only necessary for attention to be drawn to the fact and the extravagance will cease. If treated as gentlemen men will, of course, behave as gentlemen. It will be quite time enough to use such measures as ordering histories to be written when a chronic offender will not pay attention to his senior officer's warning.

The breakfast and tea meals with each of the four mentioned diets are the same. They consist of a pint of tea, six ounces of bread, and half an ounce of butter. Between tea and breakfast there is no other meal, and therefore the sick soldier is 14 hours without food. Considering the scantiness of the tea meal (supper) this is much too long a time. If the tea was made more substantial by adding sausages alternately with eggs, &c., and given at 6 P.M. instead of at from 4.30 P.M. to 5 P.M., then the man would be more fitted after his night's sleep to wait until the eight o'clock breakfast. I have often had sick soldiers complain of great feeling of emptiness in the night. No wonder, especially with those who have eaten all their bread by the middle of the day. The breakfast, too, is a very poor one. I should like to see it enlarged by oatmeal porridge alternately with corned beef or cold bacon, &c., and the quantity of the bread-and-butter increased. In gaol we give prisoners more satisfying breakfasts and suppers than we do these soldier patients, for the former have eight ounces of bread and a pint of porridge with each meal.

There is a blot in the regulation regarding the ordering of diets, and that is that if a meat diet has been marked on the sheet the previous day, as the custom is, and the soldier has an attack of fever or colic, &c., the diet cannot be altered for one of milk or of beef tea. At any rate, if it is so altered—and it is most desirable that it should be—then there is a great hullabaloo because the articles of diet have been requisitioned the day before and the diet sheets have also to be altered in the office. The remedy should be to allow a sufficient quantity of milk to be given to the extra sick soldier, putting his unused diet on a casualty list. Undoubtedly it is a waste of time daily to have to write down the diet a soldier is to have, when no alteration perhaps is made for two or three weeks. In civil hospitals a blank sheet is used, and when a change of diet is thought desirable the fresh diet is written down with the date against it, and thus time is saved.

Soldiers who come to the hospital for medical treatment are sometimes sent into what is known as the "detained ward." This is done when probably a man will be well enough to return to duty the next day, or when the medical officer is doubtful if his illness will be of a nature to necessitate his being made a hospital patient. The order is that a soldier should not be kept in a detained ward for more than 24 hours, but I have known him to remain there for four days. It is often a great convenience to detain a sick man for more than one day. As long as a soldier is thus detained his meals are not supplied by the hospital, but his rations are brought up from the barracks uncooked, the cooking being done in the hospital kitchen. The practice is the same with regard to rations given on the first day that a soldier is admitted into hospital. He is supposed to bring his uncooked rations with him which are to be cooked in the hospital kitchen. But this, as in the case of the detained soldier, is very rarely, if ever, done and the consequence is that the man's meals for the first day are brought up cooked by the orderly of the sick soldier's barrack-room. After a journey, which may be long, we may be sure that the food is scarcely in a suitable condition for a sick man. It must be granted also, of course, that the illness the soldier is suffering from is suitable to the food, and not the food to the illness, which requires no Euclidian demonstration. The dietary arrangements for the first day a soldier is in hospital, or during the time he is in the detained ward, are bad. It should be that in either case the man is fed entirely from the hospital kitchen with a diet ordered by the medical officer. This bad arrangement for the detained ward was carried out in South Africa, for a letter published in the *Times* a short time back from an Imperial Yeoman to his father bitterly complained of his diet during the days he was in the detained ward of his hospital.

With regard to the healthy hard-worked soldier in barracks his dinners are good, but his breakfast and tea (supper) meals leave something, medically speaking, to be desired. These meals vary considerably. For instance, in one regiment there is for breakfast on Sunday boiled bacon besides the tea and bread-and-butter, but nothing extra on the other days of the week. Another regiment on Sunday has brawn, on Monday salmon, on Wednesday sardines, on Friday cheese, and on Saturday bacon. In both of these regiments when they have something extra for breakfast they only have the tea and bread-and-butter for supper. On the days when they have nothing extra for breakfast they have for supper either potted meats, corned beef, tomatoes, sardines, fish, brawn, tinned salmon, kippers, jam, or golden syrup. It would be wiser if at each of these meals they had steak, liver-and-bacon, or Irish stew, &c. I believe that their funds would allow of more substantial food if economy was better studied. Latterly it has been arranged that every soldier should be able to procure a cup of coffee and a biscuit after 6 A.M., in some regiments free of charge, in others at a $\frac{1}{2}d.$ each. This shows that the desirability and necessity of increasing the amount of sustenance have been seen. It would also be wiser if for breakfast a full half hour was given instead of it being rushed through in ten minutes or a quarter of an hour.

Kitchens should be better fitted up than they are, complete sets of cooking utensils being provided. Kitchens are very often badly kept, the utensils being dirty. Diarrhœa is caused sometimes from foul saucepans, but not always, or the station hospital would be in greater request. At depôts it seems to me that permanent cooks should be kept. This is the order given elsewhere. Permanent cooks are, of course, better cooks than the odd men; they keep their places and utensils in better order and they form a school of cookery for the youngsters.

Another boon might, and many say it should be, granted. The daily pay of a soldier in the infantry is 1*s.* with 3*d.* for mess allowance, and for the cavalry man 1*s.* 2*d.* with 3*d.* for mess allowance. (This 3*d.* of the last two years is a great improvement.) At the present time a soldier in hospital has 7*d.* a day deducted from his pay for his food, besides losing the 3*d.* which outside he has for mess allowance. This deduction must be intended somewhat to stop the soldier malingering—not that it often succeeds. In special cases this stoppage of pay for food is remitted, for instance, when a soldier has been admitted for an injury which occurred on duty. Then there has to be a court of inquiry, whose finding has to be submitted to the general officer commanding the district. If this officer approves, the whole or half of the stoppages are remitted to the soldier. Deducting 10*d.* a day from the pay of a bachelor soldier is not so great a hardship as it is in the case of a married one. A married soldier's home during his sickness has to be kept up, and his wife and children have to be fed. When the man is on duty rations are issued to the family, but when he is sick no food is granted to his wife and children. The hand of disciplinary regulations falls heavily upon them for the illness

of the husband and father. How they manage it is hard to say. Living must be done at a starvation rate. The misery of the family is, I should think, unwarrantably great. I know what the sick soldier's misery is and that this worrying on his part, putting it mildly, does not help his recovery. It seems to me that Government should act as a good master does to his servant, paying full wages during sickness. There is more reason for the Government doing so, for it never has to fill the man's place during the time he is sick. Or, putting the argument in another way, Government could take upon itself to act towards the soldier as a sick club does with a subscribing labourer. If a soldier "goes sick" without sufficient reason it can be left to the military surgeons to put a stop to his malingering, and the malingerer could be charged full price for his food for the time he has been in hospital. In the sister service no portion of the sailor's pay is deducted for the first month. After that time up to three months he loses 10*d*. a day out of 1*s*. 7*d*.

I have a strong feeling of regret at the continuous enforced economy in every department of the hospital. This practice of economy is almost miserly. Certainly it is harmful. Probably it is in consequence of the poorness of the grant for carrying on the working of military hospitals. During my time of work at the station hospitals I often had to make complaints that the baths were not supplied with hot water, and frequently I found that the cold water had been turned off because attention had been drawn from head-quarters to the high amount of the city water-rates. Now, to ensure soldiers being clean before they go to bed in the hospital wards, and to keep them clean, there must be plenty of hot water for their use, and, therefore, the water-supply should not be niggardly. It is false economy, it is generally allowed to lead to dirtiness, and also that dirtiness breeds unhealthiness. The same scarcity of supply can be said regarding the quantity of gas allowed to be consumed in the wards, officers' rooms, and offices of the station hospital. There was repeatedly an insufficient light for me to read or write by, and certainly too poor a light for operating by. I used to borrow a duplex lamp from the neighbouring civil prison, of which I am surgeon, when I wanted a light sufficiently strong for such special work as the examination of ears and throats. The stock of instruments allowed for a station hospital, say of over 100 beds, is too scanty. If other instruments than those kept in the surgery were required I obtained them either from the prison or from my home. Many a time I have heard the sisters complain of the short allowance of bandages, &c. Many a time I asked that an instrument and a drug I required might be written for, but I was put off with the statement that it was no good applying for them, that I should not get them, or that there would be so much correspondence on the subject that I must be good enough to manage without; and so, as I have already stated, I borrowed. The same trouble occurred with regard to drugs. The stock kept in the surgery, to my mind, is below the proper requirement. One often had greatly to fashion one's medical treatment to the collection of drugs kept in the surgery, and not to treat disease entirely with those one believed most suitable—a grand opportunity for hitting upon a new cure. Perhaps it was better for many sick men that they were left more to nature. Sometimes, however, I did bring medicines from home for use at the station hospital. One had to do this on a few occasions when the hospital supplies ran short and until the half-yearly drug supplies came in. Supplementary drug demands can be sent in, but they take about a month before being executed. One special drug I did apply for. I was told that it would not be allowed. It was Nourry's iodinated wine. This remedy saved the life of a soldier, or saved him at any rate from losing his leg from tuberculous disease of the knee and tibia which followed a wound caused by the kick of a horse. This remedy was kindly allowed by the authorities, but 19 days passed before the supply arrived, and in the meantime I had to obtain some from a local chemist at my own expense, in order that the man might be kept going. Three weeks without this drug would have been most serious for him, for it was the only one which was of service to him, and without it I believe he would have "gone the way of all flesh." It is difficult to see why the Army Medical Department cannot act in the same way as the Commissioners of Prisons. If drugs are urgently needed, sufficient quantities (to last until the contract druggist can send a supply) are obtained from a local chemist. And thus it is with all other items of necessaries for sick prisoners. The supplies are liberal, and the medical officer has a free hand in ordering them.

I may add that prisoners in gaol receive every consideration. It was said by a man's wife at Bow-street before the magistrate concerning her husband, who was in custody for desertion, that, "he prefers going to prison to paying, and says it is like going into a convalescent home. The only thing he misses is his beer." (This statement appeared in the daily papers of Nov. 10th, 1900.) There is nothing wanting for them that is desirable. It would be well, to return to the question of the management of the station hospital, if Government would extend this extreme prison liberality to the Army Medical Department, thus allowing for an improved state of things in the case of the sick soldier.

At times during my year of office as medical officer I also carried on the work of the senior medical officer during his illness, and thus of course I had an insight into the whole management of military hospitals. One of the greatest puzzles, amongst others, to me was the steward's account. It accounted by one-fiftieth of an ounce in the column for pepper, one-twentieth of an ounce for mustard, and one-eighth of an ounce for flour. The amalgam of these fractional proportions made a lovely show—a regular battle-field of figures.

The returns in the Army Medical Department are most varied and almost endless. There are daily returns, weekly returns, monthly returns, quarterly returns, half-yearly returns, and annual returns. I often wondered that the staff-sergeant at the head of the clerical department in the hospital I was working at did not lose his head and make one big return by throwing the accounts into the fire, but then he was a most excellent young fellow, and I may add that he was not only quick, neat, and correct in his clerical work, but that he was also a capital hand as hospital orderly, at bandaging, and at the first management of injuries. He was, I considered, the great mainstay of the hospital, besides being able to play cricket and football, which are most desirable relaxations for the staff. He knew all the innumerable regulations and the proper method of carrying them out. Everybody could depend upon him. What added to one's feeling of admiration for him was that in all he did he kept "straight." For a non-commissioned officer to be honest is everything. I am sure that it must be a great temptation for one in a staff sergeant's position to be dishonest, the opportunities being so great. I hope that there are many like him throughout the Army Medical Department. Were the accounts in simpler form the number of clerks could be less, and it follows that then the expense of carrying out this department would be less.

With regard to my previous remarks upon trusting more fully the medical officers, I may add that there appears to me to be a general want in the Army Medical Department of trust. This leads to certain officers not trying to do their best. It is rather the practice, it seems to me, to do as little work as possible with the least amount of trouble, and to grumble when it is being done. Of course there are other reasons, but I feel confident that this want of trust is a great item for causing discontent—and rightly so, most of us will say. My acquaintance with army medical officers is limited, but for the greater part it has given me the idea that there should be an effort on the part of the authorities to improve this class of officer. Not only, as I have pointed out, do some require a better knowledge of medicine and surgery, but the old understanding of the term "an officer and a gentleman" should be encouraged again to come into existence in every case. It would be well, I feel sure, that the pay of medical officers should be increased that a better class of hospital students should more frequently decide to enter the army. Is not a qualified medical man with the power at once to earn an income, who enters the army in a much better position than the man who enters the army as a combatant officer, if both of them at the last moment decide not to become officers in His Majesty's army? Therefore the former's pay should be proportionately greater. He is rolling two professions into one. And it should be greater, more especially as the want of medical officers has been for some years past much felt by the authorities. Added to this want the desirability of improving the class of officers for the medical corps is now recognised. The senior medical officer, besides being

"reasonably perfect in his work," should also be a gentleman in the fullest sense of the word, and one that excels in managing his fellow-men. Such being the case there would be no fear that a principal medical officer, who has charge of a district, would be unsuitable for his post, considering that he is chosen from the number of senior medical officers.

THE REPORT ON ANÆSTHETICS ISSUED BY THE BRITISH MEDICAL ASSOCIATION AND "THE LANCET" CLINICAL REPORT ON ANÆSTHETICS.

I.

A BRIEF *résumé* of the first-named report has been already placed before the readers of THE LANCET.[1] We propose in the following remarks to deal more in detail with the facts presented by it and the conclusions advanced by the committee entrusted with its preparation. Its initiative, we are told,[2] was a discussion which dealt with the importance of a clinical investigation into the action of anæsthetics. Papers were read upon the occasion insisting upon the necessity for some collective investigation into the subject. This occurred in 1891, but we must go further back to trace the true sequence of events which led to this the most recent pronouncement upon the merits and dangers of anæsthetics. All those who have studied the history of the subject will recall the publication of Dr. Snow's work, "On Chloroform and other Anæsthetics."[3] In this most meritorious book are contained accounts of experiments upon the lower animals performed to elucidate the then practically unknown physiological action of anæsthetics as well as a careful collection of the cases of human beings to whom chloroform, ether, amylene, &c., had been administered. An attempt was further made by Dr. Snow to explain such accidents, whether fatal or not, as occurred to patients by reference to the experiments detailed. Dr. Snow also collected all the records of deaths procurable from the first use of general anæsthetics and commented with great acumen upon them. Thus both an experimental and a clinical record find a place in his pages. Wakley and others had investigated the physiological action of chloroform, but the first collective attempt to study the matter owed its origin to the Royal Medical and Chirurgical Society which published its report in 1864. The major part of this report was experimental, although appendices were added which besides giving a further list of deaths dealt also with the uses and effects of chloroform and the best modes of resuscitation. The report concludes by giving a number of rules to be adopted with the view of avoiding danger during the inhalation of chloroform. Various researches of an experimental character have been made since the publication of this report, but the most important, since they led to a further clinical investigation upon the matter, were the well-known Hyderabad Commissions appointed in 1888 and 1889. Sir (then Dr.) T. Lauder Brunton represented the Editors of THE LANCET in the Second Hyderabad Report and the results accruing from the large number of experiments made were published in THE LANCET.[4] Both of these reports were initiated through the enterprise of Lieutenant-Colonel Lawrie, I.M.S., and by the munificence of H.H. the Nizam of Hyderabad. At the conclusion, however, of this purely experimental research the importance of investigating from the clinical side became apparent and the Editors of THE LANCET thereupon appointed a Special Commissioner to draw up such a report and in 1893 published[5] what was the fullest and most important clinical inquiry into the action of chloroform and other anæsthetics upon human beings which had ever up to that time been undertaken. A comparison between this report and the one just issued by the British Medical Association cannot but prove advantageous, as the two, although prepared upon different lines and with different methods and from somewhat different material, present many points in common and cover much of the same ground.

[1] THE LANCET, Jan. 26th, 1901, p. 280.
[2] Brit. Med. Jour., vol. ii., 1891, pp. 1088, 1329.
[3] Churchill, 1858.
[4] THE LANCET, March 1st, 1890, p. 486.
[5] THE LANCET, March 18th, 1893, p. 629.

The first report (THE LANCET Chloroform report) based its conclusions upon (1) published records of deaths from 1847 to 1891 inclusive, a period of 44 years; and (2) answers to a circular letter inclosing forms for the guidance of correspondents engaged both in private and hospital practice. These were sent to all members of the medical profession in the United Kingdom and to leading surgeons abroad and in the colonies and the United States. The range of questions will be seen on reference to page 88 of the report. The British Medical Association report obtained its information from a very carefully drawn-up note-book which was sent to a number of hospitals, and contained, when returned to the committee, entries of all cases treated under anæsthetics in the hospitals during the year 1892-93. 136 of such report-books were returned with references to 25,920 cases. Although this report deals only with England and Scotland, and therefore does not correspond in scope with THE LANCET report, yet its figures and findings are sufficiently in harmony with the latter to render collation and comparison both simple and useful. We omit for the moment the appendices which deal *inter alia* with statistics of 1521 administrations of chloroform in India.

It strikes the student that the report is practically one dealing with chloroform and ether as administered in hospitals and by specialists in anæsthetics. The cases of nitrous oxide administration, although 2911 in number, present only slight departures from the normal in 25 cases and in only two of these instances called for remediable measures, and in none gave rise to anxiety. We cannot, however, admit that such figures can either prove the safety of, or indeed any noticeable facts about, an anæsthetic which must be used many thousands of times daily in the large towns of England alone. Forty-five anæsthetics, mixtures, and successions of anæsthetics are scheduled which besides nitrous oxide and that gas combined with oxygen (Nos. 28 and 29) represent (1) chloroform; (2) ether; (3) gas followed or mixed with the vapour of ether; (4) the A.C.E. mixture; (5) chloroform and ether in various proportions; and (6) successions of A.C.E., chloroform, and ether. The committee have further arranged the anæsthetics and mixtures into a chloroform group—i.e., those in which chloroform is the dominating factor—(1) chloroform; (4) A.C.E. mixture; (5) mixtures of chloroform and ether; (6) A.C.E. mixture followed by chloroform; (8) ether followed by chloroform; (14) chloroform followed by A.C.E. or a similar mixture—and an ether group, in which ether is the dominating constituent—viz., (2) ether; (3) gas followed by ether; (7) chloroform followed by ether; and (9) A.C.E. mixture followed by ether.

Two sets of environing circumstances possibly affecting the use of anæsthetics are considered, firstly, those such as age, sex, time of day and season of the year, the nature of the operation, with the antecedent condition of the patient; and, secondly, those which belong to the anæsthetic itself—e.g., whether ether or chloroform, or a mixture or succession was employed—the method adopted, the quantity used, and the duration of the administration.

With regard to sex and age, when all anæsthetics are considered together, the death-rate is unfavourable to males in the proportion of 20 to 9. This represents a death-rate of chloroform and ether and their mixtures and successions, the nitrous oxide group being omitted for reasons stated above. Women are less prone to danger under chloroform than are men (British Medical Association report) as 2 to 7 and to death as 1 to 3 (THE LANCET report, 8 to 23). Under ether the danger-rate is (British Medical Association report) as 4 to 3; the death-rate being equal. It must be noted in this connexion that three of the four ether deaths (Nos. 723 to 726) were in persons in an extremely precarious state, and, as the British Medical Association report shows later, in such cases the death-rate under chloroform and ether tends to equalise. In other words, the factor tending to danger in such deaths is the condition of the patient rather than the anæsthetic. In the other case the operation seems to have caused the death, as there were no signs of anæsthetic toxæmia. In THE LANCET report the deaths recorded under ether were as 5 to 6, being slightly more favourable to the females than the British Medical Association statistics. However, there is reason to believe that in THE LANCET report gas and ether cases were placed with those belonging to the ether group in all cases in which the dangerous symptoms actually occurred when the patient was under ether narcosis. If, therefore, we associate the British

Medical Association ether and ether and gas cases together we find a death-rate of three females to two males, while the danger-rate is as 3 to 2—a very striking comparison.

The age sections of the two reports are also of singular interest when placed side by side. In THE LANCET report dealing with chloroform, taking for the sake of comparison the first five years' deaths, in the male column as unity, we have the following table:—

—	Males.	Females.
From 1 to 5 years	1·0	0·28
,, 6 ,, 10 ,, ...	2·71	0·71
,, 11 ,, 15 ,, ...	2·14	0·85
,, 21 ,, 25 ,, ...	3·7	2·14
,, 26 ,, 30 ,, ...	3·14	0·85
,, 31 ,, 35 ,, ...	2·42	1·14
,, 36 ,, 40 ,, ...	2·42	1·0
,, 41 ,, 45 ,, ...	4·57	1·57
,, 46 ,, 50 ,, ...	4·57	1·28
,, 51 ,, 55 ,, ...	1·95	0·42
,, 56 ,, 60 ,, ...	3·42	1·0
,, 71 ,, 75 ,, ...	0·29	0·1

This shows in the case of males an increased mortality-rate from one year to 25 years, then a decline to 35 years, and an increase to the maximum between 41 and 50 years. Between 51 and 55 years there is a marked fall. In females the maximum is reached between 21 and 25 years, the next highest rate occurring between 41 and 45 years, a period somewhat earlier than the male maximum. No tables giving death-rates as regards the sexes are given in the British Medical Association report as only 16 deaths due wholly to the anæsthetic are recorded, but the danger-rate which includes deaths and cases of grave danger is given below.

British Medical Association Report (Danger-rate) taken rate between One Year and Five Years as Unity.

Years.	Both Sexes.	Years.	Both Sexes.
From 5 to 15 years ...	2·06	From 41 to 50 years ...	1·12
,, 21 ,, 30 ,, ...	0·68	,, 51 ,, 60 ,, ...	0·62
,, 31 ,, 40 ,, ...	1·06		

The danger-rate between one year and five years is in the British Medical Association report extremely high, although the death-rate is 0·125 of the total.

Under ether the average age at death of males is 48 years (THE LANCET) and of females 40 years. Half of the male deaths took place between 45 and 55 years of age and most of the female deaths between 40 and 50 years. The percentage danger-rate (British Medical Association) for both sexes is highest between 50 and 60 years and next between 60 and 70 years. From 0 to 10 years it is *nil*, as it is also between 40 and 50 and after 70 years. However, it must be borne in mind that the danger-rate under gas and ether was highest between 20 and 30 years and that the deaths reported under these anæsthetics are only six, and of these, when the detailed reports are read, we find strong presumptive evidence against the anæsthetic *per se* having been the cause of death.

The conclusions on p. 72 (British Medical Association report) are noteworthy as they contradict the commonly stated fact that young children take chloroform almost with impunity. From one month to one year, from five years to 10, and after 30 years the percentage death- or danger-rate is above unity and below unity in the intermediate ages; the highest occurred between 70 and 80 years and the next between 40 and 50 years, which in the last period corresponds closely with THE LANCET report. The report adds: "It is remarkable that out of 36 administrations to children under one month there were three cases of danger."

The sections dealing with the effects produced by the season of the year and the hour of the day or night need not detain us. Unless special notes are made upon such subjects they escape the casual observer. Obviously the danger-rate as such depends upon other than diurnal or meteorological conditions. It is to be expected that dangers which arise in the night would under chloroform be due in many cases to the absence of an experienced chloroformist or other adventitious circumstances. It is, however, a matter of regret that there is no trustworthy information as to the incidence of such after-effects as bronchitis, pneumonia, shock, and collapse, during the warm and cold weather, and during the hours of maximum and minimum vitality.

The importance of the general condition of the patient at the time he has to take an anæsthetic is obvious, but it probably has less actual bearing upon either the danger- or death-rates of individual anæsthetics than would be suggested upon *a priori* grounds. In the first place, the patient whose condition is serious requires more care in the preliminary examination, and the choice of the anæsthetic is necessarily made with more judgment and after greater thought than can be expended in ordinary cases, as such persons are placed in the hands of the most experienced anæsthetist available and every precaution is taken. It is shown in the report before us that, whereas chloroform presents both a higher danger- and death-rate for the average man, woman, and child than do other anæsthetics, yet in proportion as the gravity of the physical condition of the patient increases, so, too, do the danger- and death-rates of various anæsthetics tend to become equalised. There are, however, special conditions which seem more dangerous when special anæsthetics are employed, and there are certain conditions which certainly increase the peril of taking any anæsthetic. In the three classes described in the British Medical Association report as "good," "not good," and "bad," complications under all anæsthetics taken together occurred least frequently in the first and most frequently in the second; while the danger-rate (including the deaths) was highest in the third and lowest in the first. For chloroform alone the same figures hold good, but in the case of ether, although the danger-rate agrees with the above, the difference between the second and third classes is less marked. Gas and ether follows the figures of all anæsthetics. When these three anæsthetics are compared we find that the "danger-rate" is slightly higher in the case of ether and six times higher in that of chloroform when compared with "gas and ether." A danger case was reported once in every 133 chloroform administrations, once in every 654 ether administrations, and once in every 834 "gas and ether" administrations when the persons taking the anæsthetic were in "good" condition. And this holds true in the "chloroform" and "ether" groups. This inequality between chloroform and ether is less marked in the second class and least in the third class—viz., 1·9 to 1·4 and 4·0 to 3·7 respectively.

When we pass to special diseases, or to the "pathological states," as they are termed in the British Medical Association report, we are again able to contrast the facts given with those furnished by THE LANCET report. Alcoholism was pointed out in THE LANCET report as one of the dangerous and frequent predisposing causes of accidents under chloroform, and in the details of the necropsies many of the lesions recorded are those found associated with chronic alcoholic poisoning. An inspection of the tables of deaths, pp. 104 to 164, where in column 8 the necropsies appear, reveals the large number of cases in which more or less evidence of alcoholism was shown among the fatal cases. This arrangement is also followed in the British Medical Association report on pp. 58 to 63. In this last-named report we find (p. 80) that alcoholism increased the danger-rate under all anæsthetics sixfold as well as increasing the complication-rate to nearly the same extent. Under chloroform the danger-rate was increased eight times. In the ether cases, although the complication-rate was triplicated, there was no instance of danger. Emphysema was pointed out in THE LANCET report to be, next to alcoholism, one of the most frequent predisposing causes of death, and the figures in the British Medical Association report agree except that they indicate this condition to be the most dangerous of all. Shock and collapse, affections of the heart, empyema, bronchitis, and anæmia are all mentioned as having been associated with a high danger-rate. It is also noticeable that when complications arose in the case of patients who suffered from any of these conditions they were usually associated with danger. Vomiting during anæsthesia is in both reports stated upon clear evidence to be commonly the cause of considerable danger. In the section (p. 103) dealing with "Phenomena of Anæsthesia" we find it stated: "The figures, indeed, are so striking as to suggest that the phenomenon" (i.e., vomiting and retching) "bears a causal relation to the onset of complications." There, however, seems to have been no special report offered as to the

dangers of anæsthetics in the case of persons who were vomiting as the result of disease before the administration of the anæsthetic. This point was investigated in THE LANCET report and the conclusion given was that such cases were peculiarly dangerous. It will be convenient, however, to defer more detailed examination of the matter to a later portion of this review.

When we come to the sections referring to operations we find more divergence between the reports under consideration than has hitherto revealed itself. In THE LANCET report the operations most attended with deaths are given in the order of danger for chloroform—extraction of teeth, reduction of dislocations, excision of joints, operations on bones, amputation of fingers, for fistula in ano, ablation of the eyeball, operations on the breast, and removal of the tongue. With the exception of the dental cases the operations named were mostly undertaken in hospital and the frequency of a fatal result really is a factitious one, as the figures bear a due proportion to the number of the operations of the nature actually performed. When viewed in this way the numbers only record what may be called the usual percentage of death-rate under chloroform for the operations in question. The British Medical Association report (p. 87), however, gives the following order of danger: major amputations and excisions, operations for ruptured perineum, excision of the eyeball, operations on the pleura and lung, abdominal sections and those upon the upper air-passages; circumcisions also showed an increased danger-rate. The absence of statistics concerning teeth extractions under chloroform is no doubt accounted for by the fact that at most hospitals gas is used for such cases, and it was chiefly from hospital statistics that the British Medical Association Committee compiled their report. Under ether the highest danger-rate was in the case of operations for strangulated hernia, and its extreme danger in such cases is borne out by collation of the two reports. It must be pointed out, however, that if the individual cases are studied it will be seen that in many instances the patients were *in extremis* at the time of the operation, and for this reason ether was the anæsthetic selected. Death seems in these cases to have arisen not from an overdose of ether but from the aspiration of stercoraceous vomit into the air-passages. We regret that we have not space to give the cases recorded of this condition in the two reports as they are very striking. The British Medical Association Committee are, however, inclined to regard chloroform as the safer anæsthetic in operations for strangulated hernia since there is a low danger-rate for this anæsthetic, most of the dangerous cases having been reported as occurring under ether. The evidence advanced, however, is not sufficient, we think, to prove this, however much the members of the committee as experts may, by reading into the report their personal experience, be inclined to the view cited above. In the two cases of death where ether was used, out of 34 cases of complication, one patient was *in extremis* and the other died two hours after the operation, and in both stercoraceous vomit was found post mortem in the air-passages. It is difficult to see why these cases were classed as deaths from ether, as probably both patients would have succumbed whatever anæsthetic had been administered (see p. 61, Cases 723, 724). The figures, we think, show that the probability is that an operation as such does not play a very important part in the mechanism of deaths under anæsthetics. In such heroic measures as must be adopted in some cases of abdominal sections, amputations and when a large quantity of blood is lost the anæsthetic may play a part in so far as it produces shock, promotes hæmorrhage, lowers the body temperature, or interferes with respiration or circulation. We should be inclined to say that on such occasions the important point was *how* the anæsthetic was given rather than what anæsthetic was chosen, that is, provided no special antecedent bodily condition of the patient demanded avoidance or selection of a special anæsthetic.

(To be concluded.)

PREVENTION OF CONSUMPTION.—Under the auspices of the Gloucestershire, Somerset, and Wilts Branch of the National Association for the Prevention of Consumption and other Forms of Tuberculosis a public meeting was held at the town-hall, Bradford-on-Avon, on March 11th, under the presidency of Mr. John Fuller, M.P. An interesting address was given by Dr. Lionel A. Weatherly and a resolution in favour of the proposed sanatorium at Winsley was passed.

THE ROYAL COMMISSION ON SOUTH AFRICAN HOSPITALS.

(Continued from p. 888.)

VI.

SPEAKING generally, we quite agree with the remarks and recommendations of the Commissioners under the head of "Sanitation" and as to the appointment of sanitary officers for all towns and camps. As everybody knows, the lamentable experience obtained during the Crimean war was followed in Lord Herbert's time by energetic movement in the direction of army sanitation in both peace and war, and in the appointment during the latter of a duly qualified officer armed with the requisite power to act as a sanitary officer on field service. Such an appointment was always made until Lord Wolseley was presumably instrumental in abolishing it by declaring that a sanitary officer was practically useless on a campaign. We quite agree with the Commissioners, however, and with Sir William Thomson's and Dr. G. Turner's evidence (pages 358 and 395 minutes). There should be a sanitary officer-in-chief on every big military expedition possessed of large experience and high rank who should be charged with the general direction of sanitation of the army in the field and who should also be in the confidence of both the general commanding and the principal medical officer. Although it is quite true that principal medical officers of divisions and of army hospitals act as sanitary officers, and that medical officers generally are well instructed in army hygiene and should one and all be held responsible for any neglect in this respect within their respective spheres of duty, still it should certainly be the special duty of some one officer to have the general direction. He should, as far as possible, inspect, report, and advise as to everything appertaining to the sanitation of troops in the field. While everyone must recognise the great importance of army sanitation we are, nevertheless, bound to say that the conditions of war are altogether different from those of civil life. This is a point, however, which is not sufficiently realised by the public. Let the occurrences described by Dr. W. Johnson (9584, 9586, and 9588, Minutes) be taken in illustration of what happens in war. It is not so much the want of knowledge as the difficulty or impracticability of applying it in war that is the obstacle to be overcome.

We have no desire whatever to shelter ourselves behind platitudinous generalisations, but the matter has, unfortunately, to be looked at from a concrete and practical and not from an abstract point of view. We have only to turn to the war news of late and the forced marches in pursuit of the Boers, for example, to see how little chance there is for the application of practical hygiene. If a foe gave some intimation of his intended movements and did not begin his fighting until both sides were ready the matter would obviously be materially simplified, but it need scarcely be said that this is never the case. Time is a necessary element in carrying out even the simplest and best-devised sanitary arrangements. In the case of sieges, in permanent or temporary camps, and in the case of captured or occupied towns there is usually no excuse for neglect or carelessness; but even in such cases the practical application of elementary sanitary principles pre-supposes, not only the presence of competent advisers to point out what has to be done, but of a properly organised executive of sanitary engineers and workmen with all necessary appliances—down to carts, picks, and shovels—to do it. Camp conservancy and latrine systems, camp cleanliness generally, drainage, water-supply, disinfecting processes, a sanitary police system, and so forth, have all to be attended to, and very promptly, if they are to be efficacious in preventing or limiting the spread of disease. A sanitary department, with its directing heads and subordinate staff and a body of navvies, would prove an effective agency in time of war, but if not sufficiently trained to arms to fight and protect themselves in case of attack they would have to be protected by troops. Soldiers can fulfil both functions; only as a matter of fact the presence and aid of troops in carrying out sanitary work cannot always be had when needed or relied upon for various reasons. Again, where the movements of a force are rapid and changes of position are unexpected, and when troops have to fight, to-

capture, and to occupy some position, they must for the moment take what they find there; and if there happen to be contaminated water and foul and infected soil mischief is soon done the results of which are bound to follow and unfold themselves with the regularity of clock-work. The necessary precautions are not, perhaps, or from the nature of the case cannot be, taken in time; indeed, to prove efficacious they would often need to have been taken in advance of the arrival of the troops. So that although it may be true that enteric fever is a "preventable" disease the term "preventable" is apt under such circumstances to be a very misleading one. Notwithstanding that it may be common knowledge that enteric fever is endemic in a country which is the seat of war, the knowledge is of little avail unless the time of its incidence with epidemic force and the locality are also known. The choice of sites for encamping troops is a matter of vital importance, and so is the periodical and frequent changing of camp sites. This latter is not sufficiently laid down in text books on army hygiene, and it is difficult, perhaps, to formulate any precise rule generally applicable, but it is a really important point. Wherever any disease, and especially any epidemic disease, is prevalent, the rule should be to change the site as soon as possible. It is, of course, deplorable that such a case should occur as that of the 2nd Worcesters related by Mr. Burdett-Coutts (page 47 of "The Sick and Wounded"), and the troops should also be safeguarded, as far as possible, against such evils as those described by Dr. G. Turner in his evidence already referred to. It is needless to add that we fully concur in Dr. Turner's recommendations.

We now proceed to Part III. of the Commissioners' report dealing in detail with the care of the sick and wounded in various places during the campaign in South Africa. This section comprises the pursuit of General Cronje and the surrender of his force at Paardeberg, the occupying of Bloemfontein, and the advance of the British forces to Pretoria, the capital of the Transvaal. We are not going to describe the dramatic course of events comprised in this most successful portion of the campaign, following so closely upon the dark and gloomy occurrences which had preceded it. From a military standpoint it was a glorious but terribly trying time for the troops.

In this portion of the report the Commissioners have to deal with the most difficult and controversial part of their inquiry, for it includes that period of the medical history of the war about which public feeling was most deeply stirred. On the publication of Mr. Burdett-Coutts's letter in the *Times* of June 27th, 1900, it was only to be expected that anxious inquiries would be made on all sides as to the truth or otherwise of the allegations set forth with so much realistic detail and suggestiveness. The real gravamen of that letter, as we said at the time, lay not so much in the statement that deplorable scenes and occurrences had taken place as in the deliberate statement that they arose from causes which might have been foreseen and prevented. The letter appeared, too, at a time when all in this country were full of gratitude and admiration for the noble work which had been done by the medical service in the field and when there was so much in other directions to cause grief on account of the losses that had been sustained and to give rise to dismal forebodings in the faint-hearted. For let it be borne in mind that the medical service, according to the testimony of all, expert and otherwise, except those crude and carping critics who are always lynx-eyed to discover defects and colour-blind to all else, had done its work most successfully. Up to, and even after, the time that Sir William Mac Cormac and Mr. Treves left South Africa the medical arrangements were excellent—they had never been better, if so good. If we may say so without impertinence to these gentlemen, their reports gave an absolutely truthful record of what had been and was being done. The most serious strain was, however, still to come. The army of the Natal command had fought its battles and suffered severe losses, but its health was fairly good. It was fighting on healthy soil and contiguous to a railway, and if it had but a relatively scant amount of wheeled and other transport it still had a sufficient amount to meet all its urgent requirements. Up to a certain point it had, too, a large and devoted as well as most efficient body of Indian dhoolie-bearers at its service. The same may be said generally of Lord Roberts's force up to the time it reached the Modder. Then came the march to Kimberley, the surrender of Cronje, the occupation of Paardeberg, with the fouled river Modder and the offensive laager, the subsequent occurrence of enteric fever, the march to Bloemfontein, and the capture of the waterworks by the Boers on April 3rd, 1900, with a renewed infection of the troops the results of which were to manifest themselves in due season and in chronological sequence. The army after leaving Kimberley, being diverted from its direct course by the Cronje episode, had soon to relinquish the use of the stationary hospitals and railway to its rear. The line of communications behind Lord Roberts's advance became cut and interrupted by the enemy, and he was soon to find himself and his force in a very analogous position to that of the army of General Sherman when that general made his celebrated march and thereby helped so materially to bring the great American war to an end.

It is well to epitomise the facts because in any attempted examination, analysis, and consideration of the report with its accompanying minutes of evidence and appendices, together with the publications which have preceded and followed these, the reader will soon find himself in a maze of entanglement with little or no clue to guide him and amidst plenty of pitfalls for the footsteps of the unwary. If at one moment he thinks that he has some firm foothold of fact as stated at one place he will find that this is somewhere else contradicted or susceptible of some easy explanation which robs it of its significance. After much labour perhaps in following out what seems to be here and there a clue he will give it up because of its being found on examination to be based on illusory, sensational, or insufficiently precise evidence. To take an illustrative example, let the reader turn to Mr. Murray Guthrie's evidence at page 67 of the minutes of evidence and compare it with that of Superintendent Nursing Sister Holland (page 267 *et seq.*), with that of Surgeon-General Wilson (10,894, 10,896, 11,009, 11,026), with that of Lieutenant Colonel W. L. Gubbins (pages 387 *et seq.* of Minutes), and with pages 42–43 of the Commissioners' report. We feel bound to say that the Commissioners appear to have spared neither labour nor pains in trying to investigate all the charges that have been brought against the hospitals in South Africa. They have shown, at any rate, that several of them were not proved, or were exaggerated if not altogether groundless.

The emphasis which we have laid in THE LANCET on transport as one of the prime factors in warfare is fully justified. Transport is a word which crops up everywhere in the pages of the report. A fatigued and half-starved army of exhausted men and horses arrived at Bloemfontein on March 13th, 1900, where, to add to the evils, the waterworks were, as we have said, captured by the enemy and the force found itself dependent for its supplies of food, forage, and ammunition on a single and precarious line of railway. Enteric fever, the seeds of which were apparently first sown at the Modder river, was already prevalent in the British force as it had been among the Boers at Paardeberg, and culminated in a sudden and widespread epidemic. That was the position. Mr. Burdett-Coutts thought that if the trucks of one day's trains had been devoted to the transport of hospital supplies during the stay of the troops at Bloemfontein the situation would have been saved (page 64, "The Sick and Wounded in South Africa"). He seems to have been reticent in those quarters where his representations would have been likely to be effective and not quite able to view the situation as a whole. An army must have food and ammunition and transport to supply them, or the safety of the whole force, healthy as well as sick, will be jeopardised. Lord Roberts's army was, for the time being, cut off—"in the air," as it is said—and supplies had to be obtained in the first instance to meet immediate necessities and in the next to ensure a fresh movement. No one seeks to shelter himself from adverse criticism under cover of Lord Roberts's authority, but had the forced marches and the unforeseen and unexpected movements of his army not taken place there would have been more transport by rail and otherwise at command, more time to make arrangements for getting up and opening out and equipping hospitals, and sacrifices of suffering and life need not have taken place. But in that case the army might not have arrived at Bloemfontein, and subsequently at Pretoria, when it did. If the reader turns to the military despatches of Lord Roberts—which were written without any reference to the medical service—published in the *London Gazette* of Feb. 8th last he will find a strong sidelight reflected on the extreme difficulties of the position, more especially in regard to transport. The exhaustion of troops and horses, the difficulties as to feeding the force, the destruction of the bridges over the Orange river are all described. In his

eighth despatch he dwells on the magnitude of the task that Her Majesty's troops had to perform where the area included in the theatre of war covered 458,030 square miles, while the distance which the troops had to travel by land was proportionately enormous. Regarded from such a point of view the responsibility was that of the Field Marshal and his staff, and, what is more, they were, as it seems to us, fully justified under the circumstances in incurring it. It was no doubt Lord Roberts's recognition of this fact and of the soundness and strength of the reasons which impelled him to act as he did that led him to ask for a small body of common-sense business-like men to be sent out to investigate the circumstances. For our part we almost wonder, if he were fully satisfied, as he emphatically said he was, with the efforts made by the medical officers, that he did not at once assume the whole responsibility of the situation. We do not say that there were no shortcomings, no serious defects or errors of administration, no wasted and misapplied energy on the part of the medical service. The report proves that there were. But it is so easy to be wise after the event. The provision of a general hospital at Orange river would have been of great service, for instance, could the movements have been foreseen.

We are not impugning Mr. Burdett-Coutts's motives. He seems to have acted under an imperative sense of public duty. Still, as we have said, the course that he took does not commend itself to our mind. It seems to us that in view of the great and widespread pain and sorrow that would inevitably follow the publication of his letter recourse should not have been had to that measure until remedy seemed to him hopeless in any other way. Every effort might first have been made to help those directly and officially concerned to set aright what had gone wrong. No one has a right to consider that he monopolises the feelings of pity and of humanity. But having arrived at the conclusion that as a matter of humanity it was his bounden duty to write to the public press it seems to us that he might have protested as emphatically as he liked against what he considered to be wrong without entering into all the harrowing details he did. Moreover, if our readers will turn to Lord Kitchener's evidence (13,354–55–56), Lord Stanley's evidence (12,741), and Surgeon-General Wilson's evidence (pages 320 and 321, paragraphs 11,004 to 11,009) they will see that Mr. Burdett-Coutts did not always take advantage of his opportunities for representing matters in the proper quarters, while his warmth of advocacy in the House of Commons of the cause which he had taken up led him into a somewhat grievous inaccuracy of statement. Surgeon-General Wilson says: "I see that Mr. Burdett-Coutts in the House of Commons mentioned my name personally, and he said he told me of the condition of things at Bloemfontein over and over again. I see in his evidence before you, my lord, he admitted he did not. I can fill up the rest of it by saying he absolutely never did mention anything to me over and over again; he never mentioned it once." What is more, Surgeon-General Wilson adds that, although he saw Mr. Burdett-Coutts constantly, he never made any complaint to him.

We did not hesitate from the first to admit the substratum of fact in the picture which Mr. Burdett-Coutts drew in his letter to the *Times*. Stripped of its word-painting there was at least sufficient evidence to show that at one time the accommodation for the sick and wounded at Bloemfontein was quite inadequate to the occasion, that hospitals were terribly overcrowded and badly provided, that there was a state of stress and strain, and that a good deal of suffering attributable to these and other causes was entailed upon a large and rapidly augmenting number of sick mainly owing to a very severe outbreak of enteric fever on a scale the dimensions of which had not been foreseen. We think it must be admitted that his allegations in these respects, after setting aside all disproved, unproved, or exaggerated statements and embellishments, have been corroborated. The picture presented to us by Mr. Burdett-Coutts is that of a deplorably bad condition of the sufferers from enteric fever closely packed together and without some of the most elementary necessaries. He rightly complains of the want of medical attendance and nurses. Under such conditions as these, however, it seems superfluous to inquire whether there was any want of medical men, nurses, and orderlies. If any number of these could have been "wafted" from England or elsewhere to the spot they would only at the moment have been a source of embarrassment instead of help to the whole force, for they must themselves have been fed and lodged somewhere and somehow to have been of any use to the sick. Mr. Burdett-Coutts disclaims the intention of making any reflection upon the *personnel* of the Royal Army Medical Corps. He may even have eulogised their work, but the whole tenour of what he has said and written seems to us to be to exalt the work performed in the hospitals maintained by private bounty at the expense of the military institutions and their medical staff. He is entitled, of course, to hold and to express any opinion that he likes, but he cannot blow hot and cold at the same time, nor is he fairly entitled to draw calumnious generalisations from isolated instances.

THE BARBERS' COMPANY.

PRESENTATION OF THE HON. FREEDOM TO THE PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ON Tuesday last Sir W. Mac Cormac, Bart., K.C.V.O., President of the Royal College of Surgeons of England, was presented at Barbers' Hall with the Hon. Freedom of the Barbers' Company. Speaking at the banquet which followed the proceedings Sir W. MAC CORMAC said:—

I should, Mr. Master and Wardens, first like to express to you and to this venerable company my sincere appreciation of the distinction conferred upon me to-day of its honorary freedom and the pleasure it has afforded me to receive it. The Guild of Barbers is of such ancient foundation that its earliest records can no longer be traced. It may, at all events, be assigned an origin as early as the thirteenth century, and before its final development into a trade guild it was partly religious in character and partly social. The barbers used to assist the monks to perform operations, but after the edict of Tours in 1163 forbade the priests to shed blood it is probable that the barbers assumed a much larger share of surgical work and performed all the minor operations, and in those days there were few besides.

In 1462, the first year of the reign of King Edward IV., the Barbers obtained a charter of incorporation and became a City Company, "the better to protect the King's lieges from going the way of all flesh through the ignorance and negligence of various unskilful Barbers and other practitioners in surgery." In 1530 the Company drew up ordinances for the better government of its members, a document of much historic interest, as it is signed by Sir Thomas More, then Lord Chancellor of England. There was also from remote time a "Surgeons' Guild," small in number, poor, called a "Fraternity" and chiefly consisting of military surgeons. The surgeons became merged in the Barbers' Company in 1540 and remained members of a united company for 200 years until they finally separated in 1745 and were constituted a Company of Surgeons, a movement attended by many quarrels. From this body was evolved the present Royal College of Surgeons of England which became incorporated on March 22nd, 1800, and, as many of you know, the Royal College celebrated the centenary of its foundation last year. It is interesting to find that in France very similar conditions obtained. There were in Paris during the fourteenth, fifteenth, and sixteenth centuries three kinds of medical practitioners—a corporation of physicians, a confraternity of surgeons founded in the thirteenth century, and a company of barber-surgeons—and these three bodies were engaged in almost perpetual strife for their respective privileges. About the year 1400 it is said that there were in Paris 31 physicians of the faculty, 10 master surgeons of the fraternity of Surgeons, and about 50 barber-surgeons. The barbers continued separate until 1505 when they became barber-surgeons and formed a numerous and powerful body, especially a little earlier when Ollivier le Dain was barber-surgeon to Louis XI. and had the ear of the king.

Ambroise Paré, who was surgeon in succession to five French monarchs—Henri II., Francis II., Charles IX., Henri III., and Henri of Navarre—was a barber-surgeon from 1541 to 1544, and took a prominent part in these quarrels; afterwards he was admitted to the fraternity of St. Come, which consisted of the Master Surgeons, closely corresponding to our Company of Surgeons. It is interesting to note that Paré when he was 65 years old dedicated his great surgery to the king, and he there tells us that "he had laboured 40 years to bring his art

to perfection and striven so hard to attain his end that the ancients have nought wherein to excel us, and posterity will not be able to surpass us." It is extraordinary that this boast of attained perfection made more than 300 years ago had remained largely true until the latter half of the nineteenth century witnessed the transformation of surgery. This assertion of perfection has been made with curious frequency by surgeons. The celebrated French surgeon, Baron Boyer, who was also at one time a barber-surgeon, says in the preface to his great work on Surgery published in 1814 that surgery had made the greatest progress and had arrived at the highest degree of perfection of which it was susceptible. Sir John Erichsen and others have in their time said much the same thing.

In 1655 the French Master Surgeons petitioned to be allowed to join the Company of Barber-Surgeons—about 100 years later than their English *confrères* who became a united company in 1540, and they so continued till 1745, when they separated in the same year that witnessed the dissociation of the surgeons and barbers in England. The quarrels between the barbers and surgeons are now ancient history; any ill-feeling has long since disappeared, and I think I may assume that the honorary freedom which you have bestowed upon me symbolises a friendly reunion. There is no doubt that the election to-day of the President of the Royal College of Surgeons of England to the honorary freedom of the Barbers' Company constitutes the first official link between the two societies since their separation more than 150 years ago, and one must go still further back to a period antecedent to 1540, when the barbers and surgeons were still separate bodies, for the possible occurrence of a member of the old fraternity of surgeons being elected a freeman or an honorary freeman of the Guild of Barbers. There is a record of a surgeon, one Master Jobès de Suthwerk (John of Southwark), being given the ordinary freedom of the Guild of Barbers in 1312 in the fifth year of the reign of King Edward II., a body amongst whom there were practitioners of surgery, but no honorary freedom has been conferred upon any one since the separation in 1745, nor, indeed, since 1663. In that year James, Duke of Monmouth, a natural son of Charles II., Alexander Lord Leven, Richard Hopton, and Thomas Rosse, Esquires, received the honorary freedom, but apparently no surgeons. The only other honorary freemen were Henry Nevill Lord Bergavenny in 1584 and Thomas Lord Windsor in 1631.

Your history can point to many famous surgeons, no fewer than 19 of them having been serjeant-surgeons to the king or queen. William Hobbes, a member of the Company, appears to have been appointed the first serjeant-surgeon in 1461. Thomas Vicary, born between 1490 and 1500, whose portrait we see in the first kneeling figure on the king's left hand in Holbein's picture, was granted the office in 1530. Richard Ferris, a very notable man, was appointed serjeant-surgeon to Queen Elizabeth in 1562 and afterwards to Edward VI. He tried to make surgery a profession and thought surgeons should know physic. Thomas Gale, surgeon to Elizabeth, born in 1507, was twice Master of the Barber Surgeons. He served in the army of Henry VIII. and was present with Philip II. of Spain at the battle of St. Quentin in 1557. He was a contemporary of Ambroise Paré who was also present at this battle, where he occupied himself in repairing the damage done by the English soldiers. William Clowes the elder, born in 1540, was surgeon to Queen Elizabeth and served against the Spanish Armada in 1588. He was a warden of this Company and a surgeon to St. Bartholomew's Hospital. He saw active service during many years both in the army and the navy. His published works are written in vigorous English and are the best surgical treatises of the Elizabethan time. He was very outspoken, and this got him into trouble, as is more than once recorded in the annals of the Company. On one occasion the strife of words between George Baker and William Clowes ended, we are told, in a "fight in the fields." Baker afterwards became serjeant-surgeon to Queen Elizabeth and was Master of the Company in 1597. William Clowes the younger was serjeant-surgeon to Charles I. He was not quite so great a man as his father. In 1625 we find a long letter from him asserting his rights in the Company and declining to act as renter warden since he "must not so poorly value the King his Master but expect from the Company as good a respect as any Serjeant Surgeon heretofore." Halle, Banester, and Reid were well-known Elizabethan surgeons, and Woodall and Wiseman followed them during the Stuart period and the Commonwealth. All were men who had seen much service in the wars and occupied very high places in their profession. Their biography can scarcely be told now, but much of interest is related of them, and they helped in their day to raise the dignity and importance of their calling and the prestige of the Company.

Your records abound in matters of interest which Mr. Sidney Young, your most able historian, has compiled with loving care. In the archives preserved at Guildhall the barbers are admonished not to advertise improperly, and not to expose blood in their windows, but to have it privately carried to the Thames. The barbers rightly claim to have been the first of the city companies to give technical instruction in their craft by anatomical lectures and demonstrations. The attendance on these lectures was compulsory and they were for long given in the theatre built by Inigo Jones and depicted in one of Hogarth's telling pictures. The subject matter was found in the bodies of persons executed at Tyburn or elsewhere, the company having the right to claim four in each year. Upon the beadles devolved the unpleasant and sometimes dangerous task of bringing the dead bodies to the hall. There was generally an ample material to choose from, and when the selection had been made the body was placed in a coach and carried off. Not infrequently the hangman, who had vested interests of his own, or the relatives of the persons executed, or the mob, protested with violence, maltreated the beadles, and rescued the body. In the annals for 1555 it may be seen that the doctor appointed for the "anathomye" was provided with a mat to guard against cold in the feet, two fine white rods with which to touch the body, and a wax candle to look into it; also an apron and sleeves both white and clean. Nevertheless, in 1631 it is recorded that great annoyance was caused to the dresser-boards and utensils in the upper kitchen by reason of the blood, filth, and entrails of the "anathomies," and another room was built in order to preserve the kitchen to its proper use. I believe we sit at our banquet to-night around the old dissecting-room table.

Two apparently authentic instances are mentioned in the records of the resuscitation of executed criminals. One was on Feb. 20th, 1567, "when a strange thing happened to a man hanged for felony at St. Thomas Wateringe. The surgeons begged to have him for an anathomye. He was stripped, hid in a chest, thrown in a carre, and so brought from Southwark over the bridge to Chirurgeons' Hall near Cripplegate. The chest being opened, the weather extreme cold, he was found to be alive and lived to the 23rd of February." The other instance was that of William Duell, a youth of 16, who was hanged at Tyburn on Nov. 23rd, 1740, "where, having hung for some time, he was cutt down and brought to the Company's Hall for dissection. He had not been there five minutes before life appeared in him, and in less than two hours he sat up and drank some warm wine." He was conveyed back to Newgate where he recovered completely and was afterwards transported for life.

In the sixteenth and seventeenth centuries the physicians and also the bishops challenged the privileges of the Company, but in the end without much success. The Company maintained their rights and haled offenders before them. In 1616 an amusing account is given of the behaviour of a John Walgrave before the court. He said he had "the authority the Archbishop of Canterbury and Bishop of London to practise, and was an antienter Surgeon than anie of them." He defied the court and made many untimely and irreverent speeches. About 1684 the surgeons in the Company began to seek for separation, the barbers protested against the undue influence exercised by the surgeons, and the matter was referred to the law. The feud continued, and the final separation took place in 1745.

I would say, in conclusion, that the Master and Wardens of this Company were good enough to lend some of their ancient and valuable plate to the Royal College of Surgeons of England on the occasion of the centenary. It was a graceful act on their part which was much appreciated by the College, and perhaps this incident may have suggested to your Master the compliment he has with so much good spirit and good taste bestowed on me to-night. Old associations, like old books, old friends, and old wines, are oftentimes of the best, and it was a happy thought of your Master to revive them. Master, Wardens, and Members of this ancient Company, I tender to you once again my cordial thanks and grateful appreciation.

In replying to the toast of "The Bench and the Bar"

Sir Edward Clarke, while in no way modifying his previous utterances, declared himself to be now at one with the Government in their South African policy, the Boers having rejected fair and generous terms.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

THE ADDRESS TO THE KING.

THE following is the text of the address of loyalty and condolence presented on March 20th by the Royal College of Physicians of London to His Majesty the King:—

"*To His Most Excellent Majesty, Edward, by the Grace of God of Great Britain and Ireland King, Defender of the Faith, Emperor of India.*

"The humble address of the Royal College of Physicians of London.

"May it please your Majesty:

"We, your Majesty's dutiful and loyal subjects, the President and Fellows of the Royal College of Physicians of London, humbly approach your Majesty, assuring your Majesty how deeply we share in the profound sorrow which has overshadowed every part of your dominions, through the death of our revered sovereign Lady Queen Victoria, and praying to be allowed to offer your Majesty, your Royal Consort, and all the Members of your Family our heartfelt sympathy in this your sad bereavement.

"We commemorate, gratefully and reverently, the lofty character of our late Sovereign, the virtues which distinguished her life in all its relations, public and private; her self-sacrificing devotion to duty and to all that might promote the welfare of her subjects, and her large-hearted sympathies which won her, in an unexampled degree, the love of her people.

"But while we lament the irreparable loss which the nation has sustained we are deeply sensible of the good Providence of God which has preserved your Majesty, through many years and many perils, to ascend the throne of your illustrious ancestors, with a knowledge and experience of public affairs and of all classes of your subjects which cannot but prove of signal advantage to the State. We cannot forget the round of public service, rarely intermitted, which your Majesty while Heir Apparent rendered to your people; and, as more particularly touching ourselves, we recall your Majesty's devotion to the cause of the sick and disabled poor in this vast metropolis, and the invaluable aid which your Majesty has given at a very critical period to those truly Charitable Institutions, the Hospitals of London, with which our Profession is so closely associated. We also recall with peculiar gratification the recognition which your Majesty has given to the Profession of Physic, and to its honourable and beneficent character, by allowing your name, while Prince of Wales, to be enrolled as an Honorary Fellow of our College.

"Lastly, we pray your Majesty to accept the assurance of our unswerving loyalty and deep devotion to your throne and Person, and we earnestly pray the Almighty to sustain you in your present trial, and long to preserve your Majesty to reign over a loyal people and a united empire.

"Signed.

"W. S. CHURCH (President).

(College seal.) "EDWARD LIVEING (Registrar).

"From our College in London,

"January 31st, 1901."

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN 33 of the largest English towns 6324 births and 4162 deaths were registered during the week ending March 23rd. The annual rate of mortality in these towns, which had been 21·5 19·6, and 18·9 per 1000 in the three preceding weeks, further declined last week to 18·4. In London the death-rate was 17·8 per 1000, while it averaged 18·8 in the 32 large provincial towns. The lowest death-rates in these towns were 10·7 in Halifax, 11·4 in West Ham, 12·1 in Wolverhampton, 12·9 in Brighton, and 13·0 in Oldham; the highest rates were 22·7 in Huddersfield, 23·0 in Preston, 23·4 in Manchester, and 23·6 in Liverpool. The 4162 deaths in these towns included 356 which were referred to the principal zymotic diseases, against 395, 376, and 370 in the three preceding weeks; of these 122 resulted from whooping-cough, 93 from measles, 53 from diphtheria, 38 from diarrhœal diseases, 27 from scarlet fever, 22 from "fever" (principally enteric), and one from small-pox. No death from any of these diseases occurred last week either in Croydon or in Halifax; in the other towns they caused the lowest death-rates in Wolverhampton, Oldham, and Huddersfield; and the highest rates in Bristol, Liverpool, Hull, Sunderland, and Gateshead. The greatest proportional mortality from measles was registered in Liverpool, Bolton, and Hull, from scarlet fever in Sunderland, from whooping-cough in Bristol, Cardiff, Swansea, Birkenhead, Hull, and Gateshead, and from diarrhœal diseases in Burnley. The 53 deaths from diphtheria included 14 in London, five in Sheffield, three in Bristol three in Leicester, and three in Blackburn. One fatal case of small-pox was registered last week in Cardiff, but not one in any other of the 33 large towns; and no small-pox patient remained under treatment in any of the Metropolitan Asylums hospitals on Saturday last, March 23rd. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of the week was 1596, against numbers decreasing from 2535 to 1652 on the 12 preceding Saturdays; 151 new cases were admitted during the week, against 185, 140, and 130 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 501, 463, and 394 in the three preceding weeks, further declined last week to 332, and were 152 below the corrected average. Influenza was certified as the primary cause of 30 deaths in London last week, as compared with 35, 39, and 30 in the three preceding weeks. The causes of 53, or 1·3 per cent., of the deaths in the 33 towns were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Nottingham, Bolton, Leeds, and in 11 other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Liverpool, Blackburn, Sheffield, and Hull.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 24·5, 23 4, and 22·7 per 1000 in the three preceding weeks, further declined to 21·1 per 1000 during the week ending March 23rd, but showed an excess of 2·7 per 1000 over the mean rate during the same period in the 33 large English towns. The rates in the eight Scotch towns ranged from 13·4 in Perth and 15·5 in Greenock to 22·4 in Dundee and 23·4 in Glasgow. The 663 deaths in these towns included 38 which were referred to whooping-cough, 15 to diarrhœa, 11 to small-pox, eight to measles, seven to diphtheria, six to "fever," and two to scarlet fever. In all, 87 deaths resulted from these principal zymotic diseases, against 122, 113, and 98 in the three preceding weeks. These 87 deaths were equal to an annual rate of 2·8 per 1000, which was 1·2 per 1000 above the mean rate last week from the same diseases in the 33 large English towns. The fatal cases of whooping-cough, which had been 67, 51, and 40 in the three preceding weeks, further declined last week to 38, of which 18 occurred in Glasgow, eight in Dundee, six in Edinburgh, three in Leith, and three in Paisley. The deaths from diarrhœa, which had been 23, 15, and six in the three preceding weeks, rose again to 15 last week, and included five in Glasgow, four in Dundee, three in Aberdeen, and two in Edinburgh. The deaths from smallpox, which had been 12 20, and 24 in the three preceding weeks, declined again to 11 last week, and were all registered in Glasgow. The deaths from measles, which had been 15 and 10 in the two preceding weeks, further declined last week to eight, of which five occurred in Edinburgh. The seven fatal cases of diphtheria corresponded with the number in the preceding week, and included three in Glasgow and three in Edinburgh. The deaths from different forms of "fever," which had been six in each of the two preceding weeks, were again six last week, of which three occurred in G asgow and three in Edinburgh. The deaths referred to diseases of the respiratory organs in these towns, which had been 161 and 171 in the two preceding weeks, declined again last week to 126, and were 44 below the number in the corresponding period of last year. The causes of 30, or nearly 5 per cent.,

of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 46·6, 39·6, and 34·6 per 1000 in the three preceding weeks, rose again to 36·6 during the week ending March 23rd. During the past four weeks the death-rate in the city has averaged 39·4 per 1000, the rate during the same period being 18·9 in London and 22·8 in Edinburgh. The 243 deaths belonging to Dublin registered during the week under notice were 13 in excess of the number in the preceding week and included 15 which were referred to the principal zymotic diseases, against 12 and 14 in the two preceding weeks; of these, seven resulted from whooping-cough, five from diarrhœa, two from "fever," and one from diphtheria. These 15 deaths were equal to an annual rate of 2·2 per 1000, the zymotic death-rate during the same period being 1·6 in London and 3·2 in Edinburgh. The fatal cases of whooping-cough, which had been five, 10, and 11 in the three preceding weeks, declined again last week to seven. The five deaths from diarrhœa exceeded the number recorded in any previous week of this year. The 243 deaths in Dublin last week included 50 of children under one year of age and 70 of persons aged upwards of 60 years; the deaths of infants exceeded the number in the preceding week, while those of elderly persons showed a decline. 10 inquest cases and six deaths from violence were registered; and 85, or more than one-third, of the deaths occurred in public institutions. The causes of 17, or more than 7 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Staff Surgeons T. Austen to the *Talbot* and E. R. D. Fasken to Plymouth Hospital. Surgeons: J. A. Forrest to the *Talbot*; L. Lindop to the *Howe*; W. Keith to the *Vernon*; F. J. McKenna to the *Plover*; J. H. Lightfoot to the *Lion*; and J. St. J. Murphy to the *Britannia*.

ROYAL ARMY MEDICAL CORPS.

Lieutenant B. B. Burke has embarked for service in India.

Lieutenant-Colonel P. H. Johnston is granted the local rank of Colonel whilst in charge of a general hospital in South Africa. Lieutenant-Colonel A. T. Sloggett is granted the local rank of Colonel in South Africa whilst in charge of an Imperial Yeomanry hospital. Surgeon-Major C. R. Kilkelly, Grenadier Guards, is granted the local rank of Lieutenant-Colonel in South Africa whilst in charge of an Imperial Yeomanry hospital.

ARMY MEDICAL RESERVE OF OFFICERS.

Surgeon-Major J. W. Cook, having resigned his Volunteer appointment, ceases to belong to the Army Medical Reserve of Officers.

INDIA AND THE INDIAN MEDICAL SERVICES.

The King has approved of the retirement of the undermentioned officers:—Lieutenant-Colonel George Michael James Giles, Bengal Establishment, and Major Edward Ronald Da Costa, Madras Establishment.

VOLUNTEER CORPS.

Rifle: 3rd Volunteer Battalion the Cheshire Regiment: Thomas Andrew Rothwell to be Surgeon-Lieutenant. 3rd Volunteer Battalion the South Wales Borderers: Lieutenant Edward Meredith Griffith resigns his commission and is appointed Surgeon-Lieutenant. 2nd Volunteer Battalion the Loyal North Lancashire Regiment: Surgeon-Major E. M. Garstang to be Surgeon-Lieutenant-Colonel. 5th (West) Middlesex: Surgeon-Lieutenant J. N. Brown to be Surgeon-Captain.

SOUTH AFRICAN WAR NOTES.

Captain P. J. Probyn, R.A.M.C., and Civil Surgeons T. B. M. Sherwen, A. McMunn, J. Davidson, H. Baylis, A. W. J. McFadden, L. H. G. Stephens, and A. B. Tucker have been discharged from hospital to duty.

Lieutenant A. C. Lupton, R.A.M.C., and Civil Surgeon A. Granville, has arrived in England.

ANTI-TYPHOID INOCULATION.

The March number of the *Scottish Medical and Surgical Journal* contains an article, entitled, "The Edinburgh Hospital in South Africa and its Work," by Dr. Francis D. Boyd of Edinburgh, physician to the hospital. Somewhat over 150 cases of enteric fever were admitted, the mortality of those which were under treatment during the whole of the attack being 10·7 per cent. His opinion with regard to protective inoculation is that its effects on the mortality of the disease can only be deduced from statistics dealing with very large numbers, and he has seen at least one case where inoculation markedly lowered the health standard of the individual. The statistical part of his reference to the subject is as follows:—

> Of the staff of the Edinburgh Hospital 58 were inoculated, 27 being done once and 31 twice. In seven the inoculation appeared to produce no appreciable effect. In a smaller number there was merely a slight local reaction as indicated by some tenderness at the point of inoculation perceptible on the following day. In the very large majority of cases there was marked local and general reaction. The effects of this inoculation were manifest in from two to five hours. There was a feeling of malaise and faintness, with, as a rule, a rise of temperature of 2° to 4°. In some cases there was an actual rigor. At the point of inoculation there was marked pain and swelling. The feverish condition lasted, as a rule, for 24 to 36 hours, after which the local swelling diminished. In some cases there was marked enlargement of the lymphatic glands nearest to the point of inoculation which persisted in one case for weeks. In the cases where inoculation was performed twice the second reaction was not so severe as the first. Amongst the staff of the hospital, of the 58 inoculated nine developed enteric fever. Of those nine cases one proved fatal, death supervening on the twenty-fifth day from a sudden attack of cardiac failure. It must in fairness be noted that the patient started his attack with an impaired heart from an old-standing mitral lesion. Of the remaining eight cases three may be described as very severe attacks with persistent high fever, and marked abdominal or nervous symptoms. In four cases the attack was pronounced, in one it was of an apyrexial type. ..... Of the soldiers admitted into hospital who had been inoculated inoculation had been performed once in every case. 18 cases of enteric were observed. Two were very severe, five severe, and 10 were apparently modified attacks. Though the signs and symptoms of enteric fever were present they were very mild, the fever not being high and often of short duration (seven to 10 days). In two complications occurred, five cases were admitted with a history of a slight fever with gastro-intestinal disturbance. It is impossible to be certain if these were cases of enteric fever. They may have been modified attacks, but some of the signs and symptoms were absent; and as they had been inoculated the presence of a positive Widal's reaction was valueless from a diagnostic point of view. Our experience thus has been that while inoculation appears to modify the disease, completely modified attacks are met with in the uninoculated. Again, very severe attacks with complications and relapse occur in those who have been inoculated. One cannot from this conclude that inoculation has been valueless, for had not the patient been inoculated the attack might have been still more severe.

AFFAIRS IN SOUTH AFRICA.

From a military point of view things are progressing favourably in South Africa, and we may now venture to believe that there are signs of the still further breaking up of the already disorganised Boer forces. General Delarey has suffered a bad defeat and lost a large amount of stores and ammunition in addition to a number of guns, horses, cattle, &c. General French, with Dartnell's and Pulteney's columns, has arrived at Vryheid after having killed, wounded, and captured 1200 Boers and taken seven guns and many rifles, and a vast number of horses, wagons, cattle, and sheep. Where General de Wet really is seems uncertain, but the belief is that he is attempting to join forces with General Botha. Politically we may say that the rejection by the Boers of the very generous and conciliatory terms proffered to them by this country has only served to bind more strongly together and to increase the number of those who trust that everything possible will be done to bring this war to a complete and speedy termination. Even the continental powers have come to recognise the fairness and generosity of this country in the terms which it has put forward but which Botha and his people have rejected. As regards the medical aspect of affairs in South Africa, the plague continues to make some progress and to be a source of trouble and embarrassment at Cape Town, its victims not being confined to the native population. Much difficulty arises from the concealment of cases of the disease. The Malay community in Cape Town are a source of obstruction to the local health authorities in carrying out their sanitary measures and policy. According to a telegram from Governor Sir W. F. Hely-Hutchinson to the Colonial Office the plague report for the week ending March 23rd was as follows: Cases admitted, 46; deaths, 21; suspects, 3; "contacts," 394. Some of the troopships conveying reinforcements are proceeding to Durban and other ports instead of to Cape Town. Recruiting for the theatre of war is proceeding in this country with great activity and large batches of men are embarking every week for the Cape. The sick-list and the list of deaths from disease in South Africa are not by any

means, we are glad to say, so lengthy as they were, but there is still a good deal of enteric fever and dysentery.

THE VOLUNTEER MEDICAL STAFF CORPS.

On March 23rd the prizes of the London companies of the Volunteer Medical Staff Corps were presented at the headquarters in Calthorpe-street by Mrs. Squire, wife of the commandant, Surgeon-Lieutenant-Colonel J. E. Squire. The challenge shield for the best all-round company was taken by No. 4 Company (Surgeon-Captain J. Harper).

DEATHS IN THE SERVICES.

Brigade-Surgeon James Crosse Johnston, A.M.D. (retired), on the 23rd inst. He served with the 9th Regiment in the Crimea from January, 1855, including the siege and fall of Sebastopol and assault of the batteries (medal with clasp and Turkish medal).

The following is a list of medical men nominated by the Secretary of State for War as surgeons-on-probation for the Royal Army Medical Corps on the recommendation of the medical schools of the United Kingdom: E. V. Aylen, M.R.C.S., L.R.C.P., London Hospital; T. J. Potter, L.R.C.P. & S.I., College of Surgeons, Dublin; H. Rogers, M.B., B.Ch., Dublin University; T. F. Ritchie, M.B., Ch.B., Aberdeen University; W. J. S. Harvey, M.R.C.S., L.R.C.P., Guy's Hospital; A. J. Williamson, M.B., C.M.B., Edinburgh University; B. A. Craig, L.R.C.P. & S.I., College of Surgeons, Dublin; A. W. Sampey, L.R.C.P. & S.I., Richmond Hospital; J. C. Hastings, M.B., C.M., D.P.H., Edinburgh University; W. M. Browne, L.R.C.P. & S. Edin., Edinburgh; C. T. R. White, L.R.C.P. & S. Edin., Edinburgh; A. A. W. Merrick, L.R.C.P. & S.I., Queen's College, Belfast; D. O'Donoghue, L.R.C.P. & S.I., Catholic University School of Medicine.

Correspondence.

"Audi alteram partem."

"THE STATISTICS OF GASTRIC ULCER, WITH SPECIAL REFERENCE TO GASTRIC HÆMORRHAGE, ITS FREQUENCY AND FATALITY."

To the Editors of THE LANCET.

SIRS,—I have been both amused and surprised by some of Mr. Mayo Robson's comments on my lecture on the Statistics of Gastric Ulcer—amused because I note that while he heartily concurs with the facts and arguments I have advanced which tell in his favour, he refuses to admit any of my facts and arguments which are opposed to his conclusions, and surprised at some of his statements. In my lecture I endeavoured to consider impartially *all* sides of the statistical questions concerned, so far as they were known to me, and to be scrupulously fair in my consideration of Mr. Mayo Robson's views. I would again emphasise the fact that the question is one, not merely of academic and scientific interest, but of the very greatest practical importance, and that it is essential that the data on which physicians and surgeons will have to decide whether operative treatment for the arrest of hæmorrhage in cases of gastric ulcer is advisable or not should be as accurate as possible.

Mr. Mayo Robson accuses me of mere quibbling because, in contrasting the actual number of deaths registered in Leeds last year from gastric ulcer with the number of deaths which should, according to his estimate, have occurred in a population of 500,000, I pointed out that the population of Leeds was 431,287. To have contrasted the actual number of deaths from gastric ulcer which were registered in a population of 431,287 with the deaths which, according to Mr. Mayo Robson's estimate, ought to have occurred in a population of 500,000 would have been unfair to Mr. Mayo Robson; if I had not made the necessary corrections for the differences in population I would have laid myself open to criticism; and unless I had stated the actual number of the population my conclusions and calculations would have been unintelligible to your readers and might have been thought to be erroneous. To term this mere quibbling is hardly what I should have expected from Mr. Mayo Robson in a scientific discussion.

I agree with Mr. Mayo Robson in thinking that the statistics of Brinton with regard to the total mortality in cases of gastric ulcer and the statistics of Müller with regard to the mortality from hæmorrhage in gastric ulcer "have become classical," for they are more than 40 years old; but I differ from him in thinking that "they are accepted by all authorities on the subject to-day." It is true that they are still mentioned by many authorities, but I am not aware that any modern authority agrees with them—that any modern authority, with the exception of Debove and Regnault, who quote Brinton's figures apparently with approval,[1] agrees with Brinton in thinking that the total mortality in all cases of gastric ulcer is 50 per cent. (or anything like 50 per cent.), or with Müller that the direct mortality from hæmorrhage in cases of gastric ulcer is 11 per cent. (or anything like 11 per cent.).

If Mr. Mayo Robson had taken the *average* of the figures given by *modern* authorities I would have had nothing to say. My objection to his figures is that they represent the mean of the extremes, and that the maximum figures which he quotes (those of Brinton and Müller) should not, in my opinion, have been included, since they do not correctly represent the total mortality or the mortality from hæmorrhage in cases of gastric ulcer at the present day. The erroneousness of Brinton's estimate of 50 per cent. is shown by the fact that, if this estimate is correct, and if (as Brinton and Mr. Mayo Robson suppose) 5 per cent. of the whole population suffer from gastric ulcer, in a population like Leeds with 500,000 inhabitants, 12,500 persons, or one in every 40 persons (if children under five years of age are included), will die from gastric ulcer, or one in every 35 persons over five years of age (if children under five years of age, who rarely if ever die from round ulcer, are excluded) will die from gastric ulcer or some of its complications!

Mr. Mayo Robson does not accept my statement that gastric ulcer is more common in the hospital class than in well-to-do people and he takes exception to my basing this opinion upon clinical evidence, to which he says I have so much objected. Mr. Mayo Robson does not seem to realise that it is one thing to determine the exact (the percentage) frequency with which gastric ulcer occurs in the whole population, and that it is another and quite a different thing to determine whether gastric ulcer is more common in the hospital class or in well-to-do people. The clinical method cannot be relied upon for the former purpose, chiefly for the reason that, after the frequency with which gastric ulcer occurs in a given number of clinical cases has been determined, there are, so far as I know, no reliable figures to enable us to apply the result to the whole population. But it seems to me that the clinical method can quite well be relied upon for the latter purpose (to determine whether gastric ulcer is more frequent in hospital patients or in well-to-do people). The general practitioners throughout the country who are in the habit of dealing with both classes of patients (hospital and well-to-do) will, I fancy, have no difficulty in deciding whether my opinion on this point, which is based upon a large experience in general practice amongst all classes of patients, in hospital practice and in consulting practice, is correct or not. Further, all modern authorities are agreed that ulcer of the stomach is much more common in housemaids and female cooks (whom I include in the hospital class) than in any other class of the community. In speaking of the etiology of gastric ulcer Welch, for example, states: "Gastric ulcer is more common among the poor than among the rich. ..... The comparative frequency of gastric ulcer among needle-women, maid-servants, and female cooks has attracted the attention of all who have had large opportunities for clinical observation."[2]

Mr. Mayo Robson says: "I was very much astonished to find Dr. Bramwell making use of the Registrar-General's returns for the purpose of disproving the statistics I quoted, and I should like to ask if Dr. Bramwell really seriously argues that the Registrar-General's returns of deaths from gastric ulcer can be pitted against the statistics of such able physicians and keen observers as Brinton, Welch, Dreschfeld, Habershon, Müller, Lebert, Tricomi, and others?" I did not pit the Registrar-General's returns against the statistics of the authorities whom Mr. Mayo Robson quoted, but—and this is a very different thing—against the conclusions (based on the mean of the extremes) which Mr. Mayo Robson drew from those statistics. I have not refused to accept the conclusions of modern authorities (such as Lebert, Welch,

[1] Ulcère de l'Estomac, p. 101.
[2] Pepper's System of Medicine, vol. ii., p. 486.

Dreschfeld, and Riegel) which show that the total mortality of gastric ulcer is probably somewhere between 8 and 15 per cent., although, as I pointed out in my lecture, these statistics are for the most part based on hospital results, and although the proportion of deaths to the total cases of gastric ulcer treated is very much greater in hospitals than outside hospitals. I have not suggested that the Registrar-General's returns were strictly accurate—nor, so far as I know, does anyone claim that *any* of the statistics (mortality percentages) quoted by Mr. Mayo Robson are strictly accurate, while Brinton's estimate is certainly most inaccurate. I allowed for considerable additions to the figures, due to the fact that a certain number of deaths caused by gastric ulcer and its complications are registered under other headings. But what I do maintain is that, after making ample allowance for these sources of fallacy, the difference between the returns of the Registrar-General and the mortality which, according to Mr. Mayo Robson's estimate, should result from gastric ulcer is sufficiently great to show that Mr. Mayo Robson's figures must be incorrect. But, after all, the practical test of the correctness of Mr. Mayo Robson's figures in regard to the total mortality of gastric ulcer is that, according to him, one in every 80 persons (if children under five years of age are included), or one in every 69 persons (if children under five years of age are excluded), in a community of 500,000 persons will die from ulcer of the stomach or from some of its complications. I do not believe that this is the case, and I would ask, Do the readers of THE LANCET, whose experience in practice entitles them to judge, believe it?

Mr. Mayo Robson next says: "Dr. Bramwell should really be careful before he accuses anyone of making a serious error, especially when he pits his individual experience and opinion against the experience of the authorities quoted from and whose statistics I will again repeat," &c. What my individual experience and opinion are has nothing to do with the particular point at issue. That point is, Was Mr. Mayo Robson right or was he wrong in concluding that the figures which he quoted represented the mortality from hæmorrhage in those cases of gastric ulcer in which hæmorrhage occurs? Do the percentages which he quoted refer, or do they not refer, to *all* cases of gastric ulcer?

Mr. Mayo Robson's statement was very definite—viz.: "Hæmorrhage which according to different authorities occurs in a greater or less degree in from 50 to 80 per cent. of all cases of gastric ulcer and is, according to various authors, fatal when medically treated in from 11 to 3 per cent. (Müller, 11 per cent.; Welch, from 3 to 5 per cent.; Brinton, 5 per cent.; Debove, 5 per cent.; Steiner, 6·36 per cent.; Lebert, 3 per cent.; Dreschfeld, 3½ per cent.; and Rodman, 8 per cent.). If we take the average, 7 per cent. of deaths in cases of gastrorrhagia from ulcer will not be far from the truth. If this is worked out in the 500,000 population of a city like Leeds it means that of the 25,000 persons who have or have had ulcer 12,500 suffer from hæmatemesis, and of these 7 per cent., or 875, die."

My statement was also very definite. After pointing out that 7 per cent. does not represent the average of the figures quoted, but the mean of the extremes, I stated: "The percentages of deaths from hæmorrhage, which Mr. Mayo Robson quotes from different authorities, with, so far as I have been able to ascertain, the exception of Rodman, refer, not to the percentage of deaths in those cases of gastric ulcer in which hæmorrhage occurs (which Mr. Mayo Robson estimates at 50 per cent. of the whole), but in the total number of cases of gastric ulcer. If, therefore, 7 per cent. of all cases of gastric ulcer die from hæmorrhage, Mr. Mayo Robson's figures will have to be doubled; in other words, in a population like Leeds, say of 500,000, 1750 will die from hæmorrhage."

Mr. Mayo Robson adheres to his reading of the figures and so do I. Possibly the authorities named may have stated one thing in one place and another thing in another place. Possibly, therefore, both Mr. Mayo Robson and I may be correct. But there is no need to talk of possibilities when the matter is capable of easy proof. I would, therefore, ask Mr. Mayo Robson to publish the exact references (he, unfortunately, gave no reference in his paper) to the passages in the publications of Müller, Welch, Brinton, Debove, Steiner, Lebert, Dreschfeld, and Rodman, to which he referred. This will at once show which of us is correct or whether both of us are correct.

Mr. Mayo Robson quotes in support of his view the following statement of Fenwick—viz.: "Hæmorrhage from the stomach is a frequent cause of death in gastric ulcer. Out of 112 fatal cases recorded at the London Hospital, 18, or 16 per cent., died from hæmatemesis, while in another series of 298 necropsies on gastric ulcer we find that hæmorrhage occurred in 56 cases, or in 18·8 per cent." In answer to this I would point out that the frequency (percentage fatality) with which hæmorrhage is the cause of death in a series of *fatal* cases of gastric ulcer does not show the frequency (the percentage fatality) with which hæmorrhage is fatal in all cases of gastric ulcer. Because hæmorrhage is the cause of death in 18 per cent. of the fatal cases of gastric ulcer it does not necessarily follow that a *large* percentage of patients who are affected with gastric ulcer die from hæmorrhage; that this is so is shown by the statistics of the Edinburgh Royal Infirmary and of St. Thomas's Hospital given below. Further, the percentage of deaths from hæmorrhage in the series of fatal cases given by Fenwick is much greater than in some other series of fatal cases of gastric ulcer. Thus in 270 fatal cases of open ulcer (collected and analysed by Welch [3]), 27, or 10 per cent., died from hæmorrhage; and in 107 fatal cases which occurred in the Edinburgh Royal Infirmary and in St. Thomas's Hospital (see below) 10, or 9·3 per cent., died from hæmorrhage.

So far as I know, there is no reason to suppose that there is any material difference in the fatality of gastric ulcer or in the fatality from hæmorrhage in gastric ulcer in London and Edinburgh respectively. The fatality in the Edinburgh Royal Infirmary during the nine years, from 1892 to 1900 [4] inclusive, is shown in the following figures, for which I am indebted to Dr. A. L. Gillespie, our medical registrar. During the nine years (1892–1900) 891 cases of gastric ulcer were admitted into the medical and surgical wards of the Edinburgh Royal Infirmary; [5] of these, 858 cases were admitted to the medical wards and 33 cases to the surgical wards; of the total 891 cases, 61 died; of the 61 fatal cases 43 died in the medical wards and 18 died in the surgical wards. The percentage of deaths in the total 891 (medical and surgical) cases of gastric ulcer was 6·8; the percentage of deaths in the 858 medical cases was 5·01; and the percentage of deaths in the 33 surgical cases was 54·54 (three of the cases which died in the surgical wards were transferred from the medical wards for the purpose of operation). In the 61 fatal cases, hæmorrhage was the cause of death in six cases only. Consequently the percentage of deaths from hæmorrhage in the total 891 cases of gastric ulcer which were treated as in-patients in the Edinburgh Royal Infirmary during the period under observation was 0·67; in other words, during the nine years, 1892 to 1900 inclusive, only six cases of gastric ulcer died in the Edinburgh Royal Infirmary from hæmorrhage.

If these results are contrasted with those of St. Thomas's Hospital they will, so far as the mortality from hæmorrhage in cases of gastric ulcer is concerned, be found to be almost the same. The St. Thomas's Hospital results are as follows. During a period of 15 years (1884 to 1898) the total number of cases of gastric ulcer was 473; of these 473 cases of gastric ulcer 46, or 9·72 per cent., died; and of the 46 fatal cases four died from hæmorrhage; in other words, four out of 473 cases of gastric ulcer, or 0·84 per cent., died from hæmorrhage. But during the same period there were 82 cases of hæmatemesis, of which three died; in two of these there was no post-mortem examination; they may, perhaps, have been cases of gastric ulcer. If these two cases of fatal hæmatemesis are added (which may perhaps have been cases of gastric ulcer) the total mortality from gastric ulcer in St. Thomas's Hospital during the 15 years under observation would be 10·1 per cent. and the mortality from hæmorrhage in gastric ulcer would be 1·2 per cent. In other words, in St. Thomas's Hospital during a period of 15 years only four cases of gastric ulcer (actually returned as such) died from hæmorrhage; and if the two cases of fatal hæmatemesis (which may perhaps have been cases of gastric ulcer) are added only six cases of gastric ulcer died from hæmorrhage during a period of 15 years.

Consequently, in two of the largest and most representative hospitals in the country only 10 cases of gastric ulcer (or possibly 12 cases, if the two cases of hæmatemesis in

[3] Pepper's System of Medicine, vol. ii., p. 502.

[4] The nine years 1892–1900 are selected because there were no published reports before the year 1892.

[5] The figures do not include the cases admitted to the surgical wards during the last year (1900).

the St. Thomas's Hospital Reports, which may perhaps have been gastric ulcer, are added) died from hæmorrhage during a long period of years, giving a mortality from hæmorrhage in gastric ulcer of 0·73 per cent. (10 deaths from hæmorrhage in 1364 cases), or 0·87 per cent. (12 deaths from hæmorrhage in 1364 cases) if the two cases of hæmatemesis which were, perhaps, gastric ulcer are included. It is hardly necessary to point out that this mortality is very different from that which Mr. Mayo Robson estimates. Since Mr. Mayo Robson's address was delivered I have been actively engaged in trying to trace the after-history of all of the cases of gastric ulcer which I have treated in hospital as in-patients and seen in consulting practice. The results will be published in due course.

I am, Sirs, yours faithfully,

Edinburgh, March 19th, 1901. BYROM BRAMWELL.

"HOUR-GLASS CONTRACTION OF THE STOMACH": A SUGGESTION.

To the Editors of THE LANCET.

SIRS,—"Hour-glass contraction of the stomach" has now become such a well-recognised term for a fairly frequent diseased condition that any attempt to dispute the term will be almost sure to lack approval. However, I venture to state that it is not a precise term if not a misnomer. I maintain that the more precise term both pathologically and clinically should be "hour-glass *dilatation* of the stomach consequent on some constricting band or contracting area." When the surgeon comes to operate on these cases he does not find a small contracted stomach but two or three dilated sacs produced as a result either of fibrous adhesions or of a contracted or contracting area according as ulceration is proceeding or past. If there are two sacs we may call one the "cardiac complement" and the other the "pyloric complement." The "cardiac complement" has been formed first by hypertrophy of the muscular coat of the stomach in its endeavour to pass its contents through a stenosed lumen; the hypertrophy has then been followed by dilatation according to the ordinary rule in hollow viscera. The "pyloric complement" dilates from a totally different cause—namely, an atonic and paralytic distension due to the accumulation in it of stomach contents which stagnate instead of passing on through the pylorus, for the simple reason that the proper peristaltic waves have been cut off or inhibited by the constricting band or contracting area of fibrous tissue. An accessory factor in the dilatation of both "cardiac and pyloric complements" is the accumulation in them of the gases of fermentation and their effect upon a degenerate muscular coat. Should there be three dilated sacs produced by two constricting bands or contracting areas then we may describe a "cardiac complement," a "pyloric complement," and an "intermediary complement." The "intermediary complement" dilates from the same causes as the "pyloric complement." I am, Sirs, yours faithfully,

BERTRAM C. STEVENS, M.B. Durh., M.R.C.S. Eng., &c.

Leeds, March 18th, 1901.

"DIPHTHERIA ANTITOXIN USED SUCCESSFULLY BY THE MOUTH."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a clinical note with the above heading published in THE LANCET of Feb. 9th. This mode of administering antitoxin is not quite new. In April, 1897, I had a patient, a little girl, who became so nervous and hysterical at the sight of the large hypodermic needle then used that I could not prevail upon her to let me give her an injection but she had no objection to take it by the mouth; and although this was a very severe case with high temperature and the soft palate and both tonsils were covered with membrane the patient made a satisfactory recovery. I have given it in this way in many cases since with the most satisfactory results, having had no deaths. I use Behring's preparation, giving from 1000 to 2000 units for a dose, which amount usually is sufficient. Prior to the case referred to I had not read or heard of this means of administering the remedy, nor had I heard of it since until I read the article above mentioned.

I am, Sirs, yours faithfully,

J. LINDSAY PORTEOUS, M.D. St. And., F.R.C.S. Edin

Yonkers, N.Y., U.S.A., March 13th, 1901.

"THE DUTIES OF HOUSE SURGEONS AT THE EAST SUFFOLK AND IPSWICH HOSPITAL."

To the Editors of THE LANCET.

SIRS,—I wish to add something further to Dr. Kay's letter published in THE LANCET of March 16th, p. 815. He makes reference to my interview with Mr. Elkington, the editor of the *East Anglian Daily Times*. The same morning I mentioned the matter *re* giving information to the press to Mr. H. Mason, vice-chairman of the weekly board. He said that he was afraid that I must give information to the press as the *East Anglian Daily Times* gave us puffs and that we could not afford to offend it. My reply was that if the hospital was properly managed it required no puffs, if improperly managed the sooner it was legitimately criticised the better, and that I could not see my way clear to give information to the press and regarded it as a breach of professional secrecy. I regret to say that in discussing the matter with some of the staff they adopted the extraordinary view that patients admitted into hospital were in receipt of charity and were not on the same footing as private patients. I entirely dissented from this view and said that in my opinion patients admitted into hospital were as much entitled to professional secrecy as private patients.

Mr. Elkington's attitude at the meeting of the board of management, which decided our dismissal, is in my opinion somewhat vindictive, considering the dual position he occupies—i.e., editor of the *East Anglian Daily Times* and a member of the weekly board. In his speech to the board supporting our dismissal he asked if ethics brought the hospital money. He also went on to say that unless the house surgeons were dismissed he must seek such information as he required from the proper source—the patients' relatives.

I am, Sirs, yours faithfully,

March 19th, 1901. C. C. WORTS, Second House Surgeon.

"THE ROYAL ORTHOPÆDIC HOSPITAL."

To the Editors of THE LANCET.

SIRS,—My attention has been drawn to a letter published in your issue of March 23rd from a "Hospital Governor" relative to certain matters that have recently been considered by the committee of this hospital regarding the disposal of its present site.

I have no intention of entering into a controversy with your anonymous correspondent in the columns of your journal, but I write to protest against important business and negotiations conducted by hospital committees being prematurely discussed in the press. If such methods were legitimate then meetings of committees might as well be open to the public and to the press.

Your correspondent deals mainly with two points that were before my committee on the 14th inst. One is stated quite inaccurately and the other is not fully set out so as to merit a proper judgment upon it. Sirs, the axiom that "half the truth is often worse than an untruth" is well exemplified in this case.—I am, Sirs, yours faithfully,

March 26th, 1901. TATE S. MANSFORD, Secretary.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

Great Increase of Plague.

A THEORY was started about three years ago that the cold weather, by driving the people into their houses, favoured the spread of plague. It was apparently constructed to explain the particular outbreaks in Bombay and the idea still seems to linger in the popular if not in the official mind. Subsequent experience does not support this view as the great rise in plague mortality of the past two weeks with the rise in temperature shows. During the exceptionally cold weather plague did not make much headway. The outbreaks in Calcutta, Karachi, Poona as well as the later ones in Bombay, ought at any rate to convince anyone that an outbreak of plague will develop in the hot weather as virulently as, if not more so than, in the cold.

The total number of deaths from plague in the whole of

India last week were 4377, against 3415 in the preceding week and 2137 in the corresponding week of last year. The mortality is therefore double what it was a year ago. Bengal continues to be the worst infected province, but the disease is rapidly increasing again in Bombay. The figures are: Bengal, 2491, against 2058 in the preceding week and 782 in the corresponding week of last year; Bombay city, 845, against 588, and the district 471, against 360; Madras, 138, against 44 (all in the Salem district); North-west Provinces, 44 (in the Benares and Ballin district); Calcutta, 129, against 71; and Bengal district, 2491, against 2058. The features of the epidemic for the week are its great increase in Bombay city, its continued virulence in the Patna district of Bengal, its development in Calcutta, and its fresh outbreak in Benares and Karachi. The municipality of the latter city has addressed the President of the Plague Committee to the effect that it cannot find funds for the Plague Committee, and that either plague measures must practically cease or must be paid for by Government. There is little prospect of plague disappearing and expensive and elaborate organisations have proved unavailing. Cholera kills every year far more people, and yet, beyond purification of the water-supply, little is done. Possibly if Government would devote some of the money now expended on plague measures to original scientific experiment we should probably obtain some more tangible results.

Feb. 14th.

The Continued Increase in the Plague Epidemic.—The Death of Colonel Maitland.—The Pasteur Institute and Contributions from Local Bodies.—The Continued Famine.

I have to record a still further increase in the mortality from plague throughout India. The week's record shows 6309 deaths. The Bengal Presidency heads the list with the alarming total of 4353, of which the Patna district contributed 1736. In Calcutta there has been a rise from 233 to 287. Since these figures were published the deaths have very considerably increased and the disease is rapidly extending all over the city. In Bombay city also the plague continues to claim more and more victims. Out of the total mortality of 2495 last week there were 1118 deaths from plague. The present death-rate in Bombay is 158 per 1000 per annum. In Karachi the outbreak is slowly developing, as is usual during its early stages. There have been 100 cases and 66 deaths up to Feb. 26th. There is no particular change to note from other parts.

Colonel Maitland who was killed with his syce during the attack made on the Somali Expedition belonged to the Indian Medical Service. Prior to leaving for Africa he was attached to the Marine battalion in Bombay. He was greatly esteemed and respected by everybody and great sympathy is felt for Mrs. Maitland.

It will be remembered that the Pasteur Institute of India appealed some time ago to various local bodies, municipal and district boards, for subscriptions, but on the subject of contributing funds to this purpose many of these corporate bodies hesitated as being beyond their powers. Doubt as to the power of municipalities in India to contribute has been set at rest by a decision of Government which has held that municipalities according to the Act can contribute, but that district councils cannot do so without the sanction of the local government.

The continued famine is due to the failure of rains in the districts of Guzurat, Sholapur, and Ahmednagur. Adequate preparations are being made by the Bombay Government to tide over the coming season, but the absence of rain for so long threatens the supply even of drinking-water both for man and beast. It is said that the wells and tanks are failing. Already it has been thought advisable to deepen many wells and relief works of other kinds are being arranged for. As the harvest in other parts has been good there will be plenty of good grain available. It is only a question of distribution.

Feb. 27th.

Early Returns of the Recent Census.—The Plague Epidemic.—The Biological Treatment of Sewage.

Contrary to expectation, many places in India show an actual diminution in population as compared with the census of 1891, but only a few of the returns have as yet been published. On the other hand, there are several instances of extraordinary urban increase. Howrah, on the opposite bank to Calcutta, shows an increase of 34 per cent., Rangoon an increase of 29 per cent., and Naina Tal an increase of 45 per cent. Delhi, Cawnpore, Jubbulpore, and Lahore also show increases, but in Lucknow, Benares, Bangalore, and Bombay there have been small declines. In the three latter cities plague has probably been the cause. The city of Bombay has possibly lost 100,000 people from the plague and the census rough totals show the populations to have fallen off by 50,000 since 1891. The number of inhabitants is now 770,000. Famine and the general high death-rate in other parts of India will have prevented any very large increase in the whole population.

The epidemic of plague continues to spread and to intensify in certain areas. There were 6927 deaths throughout India from plague last week—nearly double the mortality of the corresponding week last year. The increase over the preceding week is 618. The most noticeable feature of the returns is the great rise in Calcutta—viz., from 287 deaths to 405. The disease has extended in the North-West Provinces, where Benares, Ballia, and Jaunpur are all now more or less affected. They return 283 deaths. There is a slight decline in the districts of Patna, Saran, Gya, and Monghyr in Bengal, but nearly 4000 deaths were returned from them. The increase of mortality in Calcutta is practically all accounted for by plague, and there must be a large proportion of the cases seen by the authorities during life. In Bombay city, on the other hand, with a weekly mortality of 2615 from all causes, only 1060 are returned as due to plague. The average mortality being under 700 there are thus 800 extra deaths unaccounted for. In all probability the whole of the excess is due to plague—making the plague mortality nearer 2000 than a little over 1000, as published in the returns. For the years 1896 to 1900 there have been recorded in Bombay city 269,536 deaths from all causes. The mean of previous years shows that the mortality should not have exceeded 140,000. This excess of 129 536 is only partly (about a half) accounted for by the plague deaths reported which number 59,136. From the imperfect registration of the causes of death it is almost certain that the official returns are incorrect and it is probable that the death-roll from plague in Bombay city since the first outbreak amounts to over 100,000 people.

The biological treatment of sewage is being adopted at several places in India. One of the latest towns to employ it is Howrah, opposite Calcutta. The process employed consists in passing the highly foul and offensive sewage through a specially designed primary filter constructed on the "Scott-Moncrief" plan, by which upward filtration is obtained. The effluent is then passed through bacteria beds. It is led over a broad weir on to the beds. The latter consist of layers of earth and fine cinders and are about three feet in depth. The scum of the bacteria beds is scraped off every week or so. The results are said to be economical and satisfactory.

March 7th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Small-pox in Glasgow.

THERE seems at last to be a substantial basis for the expectation that the epidemic is yielding to the active measures that have been prosecuted with a view to prevent its spread. The new cases admitted during the week ending March 24th numbered 63, a gratifying decrease on the previous record and a justification of the recorded anticipation of the health officials to the effect that recent evidences of increased activity of the disease were likely to be of a temporary character. Various amateur suggestions for dealing with the epidemic continue to be made through the public press and otherwise, and here and there certain details of the official proceedings have received a not altogether sympathetic criticism. But the great body of public opinion offers an appreciative support to the medical officer and other officials who have been called on to sustain an enormous burden of responsible work.

The Municipalities and the Health of the City.

In a recent lecture on this subject Dr. Erskine, who is a member of the Glasgow Town Council, gave an account of the establishment and development of the municipal health department. Speaking on the present epidemic of small-pox he compared it with the outbreaks in 1873 and 1874. In these the deaths numbered 228 and 214 respectively, whilst

the death-roll of 1900-01 is 190. The recent outbreaks of plague and small-pox showed that in certain respects the arrangements for guarding the health of the city are far from satisfactory. In the first place it was clear that the medical inspection of vessels arriving in the Clyde was quite inadequate, and reform in this respect was imperative. Dr. Erskine also criticised the existing small-pox hospital accommodation. This, he urged, should never have been placed in such close proximity to the General Fever Hospital. Not only is the hospital from 30 to 40 yards from the general wards but it is only distant some 60 yards from dwelling-houses. Dr. Erskine stated that he had pressed this question on the attention of the Health Committee more than two years ago but it had been completely ignored.

Professor John Glaister on Sewage Purification.

In a lecture delivered to the Glasgow Philosophical Society on March 20th Professor Glaister described the various methods of sewage purification and urged that the selection of a scheme for any populous place should be made on the ground of its suitability on practical and economical grounds to the district concerned and not on any abstract merits which one scheme was supposed to possess over another. The practical difference in efficiency between any of the schemes now in vogue was not, he considered, sufficient to justify the expenditure of large sums of public money in order to replace one system by another, for less depended on the system than on the manner in which it was worked. In dealing with the corporation sewage works at Dalmarnock Professor Glaister expressed the opinion that iron should be more extensively used as a precipitating agent. Criticising a recent statement of the city engineer that in the new sewage works precipitation would not be accompanied by filtration, the lecturer doubted the wisdom of this decision and the possibility under the circumstances of producing a satisfactory effluent. In the latter part of his lecture Professor Glaister referred to the bacterial systems of sewage purification and pointed out the disadvantage entailed by the expense involved in the purchase of large tracts of land for the contact beds. Further, no scheme yet devised could prevent the passage of pathogenic organisms through the beds into the effluent.

The Prevention of Consumption.

At the instance of the Glasgow Medico-Chirurgical Society and the Corporation Committee on Tuberculosis a public meeting was held in Glasgow on March 22nd to consider the propriety of establishing a local branch of the National Association for the Prevention of Consumption. The Lord Provost presided and there was a good attendance of medical men and others. The proposals adopted by the meeting were in favour of the object for which the meeting was summoned and in support of the establishment of sanatoria for the treatment of consumptive patients, and a committee was appointed to carry out these resolutions. The principal medical speakers included Professor McCall Anderson, Professor J. Glaister, Professor R. Stockman, Dr. Alexander Robertson, Dr. Lindsay Steven, and Professor H. E. Clark, The Lord Provost, Principal Storey, and Sir J. Neilson Cuthbertson also spoke in favour of the above proposals. Sir Hector Cameron, who was to have proposed one of the resolutions, was unavoidably absent.

University of Glasgow.

The University plans for the erection of a surgical laboratory at Gilmorehill have passed the Dean of Guild Court and the authorities, therefore, have the power to begin building when it suits their convenience. It is somewhat of a surprise to learn that the surgical laboratory is to be one of the first to be erected. Its principal function must necessarily be the promotion of research work, and it would seem not unreasonable to suggest that this might wait until the claims of the departments in which facilities for practical teaching need improvement had been satisfied. The University are asking the city merchants to subscribe liberally to promote a scheme of practical laboratory accommodation; their appeal might address itself more successfully to business instincts were it accompanied by a detailed statement of the manner in which the money is to be expended. It is reported that no successor in the meantime is to be appointed to Dr. Thomas Reid as lecturer on diseases of the eye. The endowment, it appears, is not definitely attached to the lectureship and is likely to be employed in connexion with a lectureship on another subject. There are vacancies for examiners in clinical medicine and clinical surgery.

March 26th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Dublin Sanitary Association.

THE annual meeting of the Dublin Sanitary Association was held on March 21st, Dr. Charles Moore, the President, being in the chair. Mr. R. Brien Furlong moved the adoption of the report, and Sir William Thomson, in seconding the motion, alluded to the number of dairy yards in the city, and to the fact that there could not be proper inspection of the 40 or 50 private slaughter-houses which were still permitted to exist. He said that he looked upon the want of proper control of the tenement houses as one of the chief causes of the exceptional mortality which prevails in Dublin from time to time. Sir Charles Cameron said that he was in agreement with a great deal of what Sir William Thomson had said as to dairy yards and slaughter-houses, but it should be remembered that in Dublin there were vested interests in connexion with those houses. The corporation had power to purchase the interests of the proprietors of the slaughter-houses, but they had no power with regard to the dairy yards, and at present the law did not permit them to refuse a licence for a new dairy yard even though it should be at the back of a gentleman's house. When he (Sir Charles Cameron) first became medical officer of health of Dublin there were 500 dairy yards in the city and that number was now reduced to 200. Many of the slaughter-houses had been disposed of. As to the tenement houses, many of them were owned by absentee landlords representing families that lived in Dublin 200 years ago. In Turgan-street a house belonging to a landlord who lived on the continent was let to a tenant who sublet it to a dozen others. Out of a total of 7000 tenement houses the corporation had obtained orders to close 3000, and of those that had been closed 1000 had never been rebuilt. In conclusion, he admitted that the general death-rate of Dublin was exceptionally high, but the death-rate from preventable diseases had been slightly below the average in 30 English towns.

The Hospitals and Convalescent Homes of Dublin.

At the annual meeting of the governors and subscribers of the convalescent home, Stillorgan, held on March 11th, Sir Frederick Falkiner, Recorder of Dublin, who presided, took the opportunity to make some interesting remarks in reference to the hospitals of the city. He said that Dublin was the best hospitalled city in the world and at the same time the most over-hospitalled. He did not think that many people knew that there were more hospitals in Dublin than in London with 12 times its population, and five times as many as in Edinburgh with twice its population. The work, moreover, of the hospitals of Dublin "was splendid." On another and more recent public occasion the Recorder stated that in his opinion the hospitals should not depend entirely on the subscriptions and bequests of the charitable, but that the patients who could afford it should be expected to pay some small sum, such as a few shillings per week.

The City of Dublin Hospital.

A deputation, consisting of Dr. Benson, Dr. A. R. Parsons, and Mr. Fry, representing the board of the City of Dublin Hospital, recently waited on the Pemberton Urban Council in reference to the latter's request for representation on the governing body of the hospital. The deputation explained that under a deed the provisions of which could not be altered the board consisted of 21 members, seven from the medical profession and 14 lay members. At present there was no vacancy, but a resolution had been passed that the first vacancy that arose among the lay members of the board would be offered to that council, the members of which could nominate a representative. The council considered this explanation as being satisfactory.

Royal University Graduates' Dinner.

The first annual dinner of the Royal University Graduates' Association was held in Belfast on March 19th, when there was a large and influential attendance. The President of the association, Dr. W. A. McKeown, was in the chair. The toast of "The King, the Queen, and the Royal Family," proposed by the chairman, having been drunk, the editor of the *Northern Whig*, Mr. J. R. Fisher, B.A., proposed "The Lord Lieutenant and Prosperity to Education in Ireland," to which Sir James Musgrave, Bart., replied. The main toast of the evening, "The Royal University of Ireland," was given by

Dr. McKeown. Having referred to what the Royal University had done for education in Ireland, both for men and women, and to the high standard of its examinations, especially in the faculty of medicine, he blamed the Government for making appointments on the Senate of persons who were actually hostile to the Royal University instead of persons who would do their best to make it more successful than it was. He said that at present fully 60 per cent. of those who obtained the Royal University degree in arts had been trained in private colleges or by private study. They must insist that the new Commission should be composed of absolutely impartial persons. His own idea was that the associated colleges should be strengthened, more liberally endowed, provided with halls of residence, and made constituent colleges of the Royal University with direct representation on the governing body of the University. The Rev. Dr. Nicholas (President of the Belfast Methodist College) responded, and Dr. J. Walton Browne, one of the senators of the Royal University, also said that the senators from the north of Ireland had been instrumental in effecting that no examiner in medicine was permitted now to give any question at the examinations the answer to which could not be found in any of the various text-books in use throughout the United Kingdom, and secondly that no examiner in clinical subjects should be allowed to examine the students whom he taught. He (Dr. Browne) held that the clinical examinations should be conducted within the walls of the University and not at the Dublin hospitals, and he also hoped to get students their final degree without having to go to Dublin for three months for private tuition. The Rev J. C. Heuston proposed "The Queen's Colleges and the Affiliated Colleges of the Royal University," to which Mr. G. Hume, M.A., K.C., and Mr. C. Scott, C.E., responded. The Rev. Professor Leitch, D.Litt., proposed the toast of "The President of the Royal University Graduates' Association," to which Dr. McKeown replied.

Down District Lunatic Asylum.

At a meeting of the Committee of Management held on March 22nd it was reported that dysentery, for some years endemic, now seemed to have assumed an epidemic aspect in the asylum. Notice was given of a motion to provide isolated hospitals for patients suffering from infectious diseases and the medical superintendent, Mr. M. J. Nolan, was directed to make inquiry respecting iron hospitals to accommodate about 20 patients with small kitchens connected therewith.

March 25th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Emergency Operations in Hospitals: The Responsibility of Operators.

THE Consultative Committee of the Assistance Publique, having been approached by various surgeons and accoucheurs as to what course they should pursue in the event of a patient refusing operation in a case of emergency, has returned the following detailed answers:—1. If a woman in labour who is under treatment in a hospital, being in full possession of her faculties, refuses an operation, the accoucheur in charge, after having laid the matter fully and fairly before her, should give way to her definitely expressed opinion. 2. If she only consents to be operated upon under certain definite conditions the accoucheur should also defer to her opinion, unless such conditions are manifestly unacceptable in themselves, or are against the rules of his art, or of such a nature as to make the operation more dangerous than useful. Under these last-mentioned circumstances the accoucheur ought to do nothing. 3. In an exceptional case, where by reason of the general or accidental condition of the patient she cannot be considered as being in full possession of her faculties, the accoucheur should act accordi g to his moral re po sibility, after, that is, having satisfied himself of the need for an operation and having informed the husband or in default of him the nearest relatives. In such a case the operator will not be responsible either under the criminal or the civil law, unless it should turn out that he has been guilty of evident malpraxis or has not acted in accordance with the generally accepted rules of his art. Many similar questions came before the committee and were treated as follows. The question was asked, How should the surgeon to a hospital act in the case where an immediate operation involving risk to life in a child is necessary and where there is no time to obtain the consent of the parents? The committee answer to this that in the case of urgency the surgeon can, and should, upon his own moral responsibility perform an operation which is considered to be necessary to be performed with a view to saving life, even though time is lacking to obtain the consent of the parents, but that if possible his opinion should be backed by that of his colleagues at the hospital and that the director of the hospital should be then and there informed of the operation. Under such circumstances the surgeon will not be liable to proceedings under either the criminal or the civil law unless it can be shown that he committed gross errors either of diagnosis or of operative technique. Another question was the following:—How far can a surgeon rely on the expressed wish of a child who has been told that he must undergo an operation? The committee answer to this that the surgeon must respect the liberty of the subject, whether of an adult or of a child, provided that such person be capable of giving an opinion and that the opinion be that given by the conscious exercise of a free will (*volonté consciente*). They say that in such a case the parents cannot impose their will on the child, whether in favour of or against surgical interference, but that the surgeon would do well to take the advice of his colleagues. With regard to the following question, Supposing that the parents disagree as to the necessity for an operation on a child, what should the surgeon do? the committee reply that the father's will should prevail. The final question ran, Is it either possible or becoming for the administration to lay down rules of conduct for surgeons and accoucheurs in such delicate and difficult questions as those cited above? To this the committee reply that any such rules would be the cause of grave difficulties without any compensating advantages. It is necessary for the interest of the patients and of the administration itself, and for the dignity of the medical profession, that the skilled professional worker should have perfect liberty of action—that is to say, upon his personal responsibility.

Mortality in France from 1886 to 1898.

For some years past the administration has endeavoured to get together demographical statistics, especially those of the causes of death in French towns with a population of over 5000 souls. Statistics covering a period of 13 years—namely, from 1886 to 1898—have been drawn up by M. Paul Roux, assistant keeper of the Bureau of Hygiene. He has been assisted by M. Henri Reynier, and they have issued a report which M. Monod has brought before the Academy of Medicine. The towns with more than 5000 inhabitants number 584. They are divided into six groups according to population, Paris forming by herself the first group. The total population comes to 12 848,235 inhabitants, nearly exactly one-third of the total population of France, which is 38,268,011. The report contains 14 tables in colour, which show for every group and for every town with over 60,000 inhabitants the number of births, of still-births, and of deaths. There are also shown the number of deaths due to epidemic diseases, to tuberculosis, to bronchitis, and to pneumonia, together with the infantile mortality. The most important conclusions to be drawn from the figures are as follows:—1. The steady diminution of the birth-rate, compensated in a slight degree by a small diminution in the death-rate. It must be here observed that the expansion of a race cannot be measured solely by the birth-rate or the death-rate but by the difference between the two. Now in France this difference is extremely small, very much less than that which exists in any other country of which the statistics are known. 2. There is a perpetual emigration from the country to the town, so much so that during the decennium 1886–1896, while the total population of France increased only by 0·89 per cent., the increase in towns of over 5000 inhabitants was 11·52 per cent., which obviously implies a diminution elsewhere. This percentage rises with the population of the towns, so that while it is 1·3 in towns of from 5000 to 10,000 inhabitants, in towns with over 30,000 inhabitants it rises to 18 or even 20 per cent. 3. There is a marked decrease in the number of deaths due to epidemic disease. 4. The number of deaths due to tuberculosis is almost stationary. 5. The infantile death-rate is very high. The mean of the birth-rate for the period 1887–1890 was 24·05 per 1000, which fell during the period 1896–1898 to 22·90, a fall of 1·15 per 1000, or for the urban population of 12,000,000 a fall in the births of 14,700

per annum. The mean annual death-rate was for the period 1886–1890 24·56 per 1000, while for the period 1896–1898 it had fallen to 21·36, a fall of 3·2 per 1000. The total fall in the epidemic death-rate was 15,350. Deaths from diphtheria decreased by 5650, from typhoid fever by 3000, from small-pox and measles by 2800, from whooping cough by 900, and from scarlet fever by 400. As regards tuberculosis, the reports are as yet incomplete, but it will suffice to remark that the number of deaths headed "cause unknown" or of those not officially certified are much in excess of the deaths from tuberculosis, and probably a great number of the uncertified deaths are due to tuberculosis. The infantile mortality during the period 1896–1898 reached the enormous figure of 247 deaths per annum for every 1000 children under one year of age, but during the period 1887–1890 the deaths numbered 317. Out of 25,539 deaths, infantile diarrhœa is responsible for 10,189, a percentage of 39·9. Every municipality and medical man should do their utmost to make these statistics as complete as possible, for the advantages which will thus accrue to the hygiene of the country are obvious.

The Dangers of Anæsthesia by Injections of Cocaine into the Spinal Canal.

At a meeting of the Academy of Medicine held on March 19th M. Reclus gave an account of certain inconveniences and dangers which have been observed to accompany anæsthesia by the spinal injection of cocaine. Sometimes owing to various causes no anæsthesia or only a transitory one is produced. Sometimes, too, the practice brings about trembling, nausea, vomiting, paralysis of the sphincter, transitory paraplegia, intense headache, or even severe attacks of fainting. Death has sometimes occurred, as in the cases reported by Humbert, Dumont, Jonnesco, King, and others. The method, therefore, cannot be considered as being without danger.

March 26th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

General Staff Surgeon Dr. von Coler.

THE seventieth birthday of General Staff Surgeon Dr. von Coler, chief of the army medical department, was celebrated by the members of the army medical corps on March 15th. All well-wishers to the army medical corps will be glad to hear that Dr. von Coler, notwithstanding his advanced age, will continue to hold his appointment. The *Deutsche Medicinische Wochenschrift* rightly says that the army owes very much to the chief of the medical department, because during the last 20 years the amount of sickness in the army has decreased by 30 per cent. and the death-rate by 50 per cent. The army medical school has received special attention from him, and he has been the means of providing it lavishly with every requisite for modern scientific research. Among the various administrative questions ably dealt with by him not the least important was the making of arrangements for systematic post-graduate study by the medical officers of the army. All these officers have been required from time to time to attend a series of lectures and practical demonstrations specially delivered for them in Berlin and the other university towns, and the larger public hospitals have been induced to give facilities for young medical officers of the army holding assistant surgeoncies and other similar appointments for periods of one or two years. He favoured the publication of scientific researches as much as possible, and a great many celebrities in various branches of medical science served at first in the army medical corps—such men, for instance, as Professor Behring, Professor Loeffler, Professor Gaffky, Professor Goldscheider, and many others. He has been a strenuous upholder of the principle that the position of the medical officers in the army should be in accordance with the importance of their services. Dr. von Coler, who had himself the rank of a lieutenant-general, was the means of obtaining adequate military rank for them and of bringing them to be looked upon as comrades by the other officers. His principal merit, however, consists in the fact that he has never ceased to take an active interest in medical science, and that he has never allowed his subordinates to forget that they were not only military officers but also medical men. The members of the army medical corps have commemorated the seventieth birthday of their official chief by issuing under the designation of the "Coler Library" a series of publications representing every branch of medical science and written exclusively by present and past members of the corps. The first six volumes are as follows: A Treatise on Diphtheria, by Professor Behring; History of Small-pox and Vaccination, by Dr. Kubler; A Study on the Physiology of Marching, by Dr. Schumburg; Physical Methods of Treatment in Internal Diseases, by Dr. Buttersack; Surgical Operations in War, by Professor Fischer; and Aural Operations, by Professor Trautmann. Surgeon-General Dr. Schjerning acts as editor of the "Coler Library."

German Balneological Society.

The German Balneological Society held its annual meeting at Berlin from March 8th to 11th, under the presidency of Professor Liebreich. The proceedings began with an inaugural address delivered by the chairman, who commented on the great development of spas and health resorts in Germany. He spoke in favour of recent views according to which balneological treatment at spas ought to be resorted to more for prophylactic purposes than for the cure of disease already established. Artificial mineral waters, he said, would never be so efficacious as the natural products, notwithstanding the progress of chemistry, but a course of treatment at any spa, however celebrated, would be useless if not controlled by a competent medical man. He was glad to know that balneology had become a science like other branches of medicine.—Professor Kisch of Marienbad spoke on the treatment of gout by water containing salts of lime which diminished the excretion of phosphates and urates. Springs like the Rudolfsquelle at Marienbad, the Arminiusquelle at Lippspringe, and the Helenenquelle at Wildungen were therefore valuable in nephrolithiasis, in vesical calculus, and in gout. These waters had, moreover, a diuretic action.—Dr. Pariser of Homburg read a paper on Cholelithiasis. He warned his hearers against methods by which gall-stones were to be discharged from the gall-bladder into the duodenum. A total evacuation of the gall-bladder was never obtained and the sufferings of the patient were increased by the treatment. Cholelithiasis might terminate in spontaneous recovery, because at necropsies calculi were very often discovered in the gall-bladder of persons who had never complained of any pain. In Dr. Pariser's opinion the best way of guiding a case into this latent stage was to keep the patient in bed and to treat the attacks of colic with narcotics.—Dr. Frankenhauser of Berlin read a paper on the Administration of Medicines with the Aid of Electricity. When the electrodes of a galvanic battery moistened with a saline solution were put on the skin a certain quantity of the salt made its way through the skin and passed into the circulation, the amount depending on the strength of the current. A rabbit might be poisoned by using an electrode moistened with hydrocyanic acid. The practical use of these experiments was only small because no more than a small quantity of any drug could be absorbed in this way; Dr. Frankenhauser had, however, succeeded in producing local anæsthesia by cocaine applied in this manner.—Professor Kolle read an address on new researches in bacteriology and serum diagnosis. Immunity of an organism against the virulent action of bacteria might be obtained by the administration of antitoxic substances, as, for instance, in diphtheria by the injection of diphtheria antitoxin. Another kind of immunity was obtained when the organism had the power of destroying bacteria spontaneously by dissolving or coagulating them so that they lost their toxic action. In the course of his researches Professor Kolle had made some interesting discoveries as to the toxic action of the red corpuscles of the blood of certain animals. It had been known for a long time that blood of a given animal injected into an animal of a different description produced a toxic effect, and if after the injection the animal survived it now became immune against the blood of the same species. Rabbits might in this way be made immune against human blood, and if an injection of human blood was given to a rabbit thus immunised the red corpuscles of the injected blood were dissolved and rendered harmless, whereas if pigeon's blood was injected into the same animal it continued to be toxic. There was one interesting exception. An animal immunised against human blood was also to some extent rendered resistant to the blood of monkeys—a new proof of the narrowness of the dividing line between the simiæ and the human species.—Professor Winternitz of Vienna

spoke on the subject of treatment by exposure to electric light. Applied in this manner the electric light sometimes caused great pain, but this complication was completely avoided when the electric lamps were provided with red glass so that the chemical rays were absorbed. When patients took the so-called "sunlight baths" they ought to have coverings made of red cloth. This method was very ancient; it was recorded that in the middle ages patients suffering from small-pox were treated by exposure to the sunlight, their coverings being only of red materials.—Professor Liebreich in the discussion alluded to Dr. Finsen's treatment of lupus by electric light. The cases shown before the medical congress at Paris were by no means completely cured, but showed only a temporary improvement such as might follow the employment of other methods.—Dr. Munter of Berlin thought that phototherapy was contra-indicated in gout; he had observed the fits to become more severe during treatment than they were before.—Dr. Winkler of Neundorf recommended sulphuretted springs in psoriasis, acne, and furunculosis. With regard to eczema only chronic cases could be treated in this way; acute eczema was aggravated by this treatment.—Other papers read before the congress dealt with the hydrotherapy of measles, scarlet fever, and neuroses; "winter cures" in the Alps; the action of mud baths; physical methods of treatment in asthma and tuberculosis; the treatment of agrypnia; the food in heart disease; and many other subjects.

March 25th.

CONSTANTINOPLE.

(FROM OUR OWN CORRESPONDENT.)

The International Sanitary Council.

THE difficulties which arose between the Turkish Government and the International Sanitary Council in connexion with the appointment of an inspector-adjoint have at last come to an end. The Turkish Government now shows a disposition to assent to the inspector-general of the Sanitary Board, as well as the inspector-adjoint and the chief accountant (Muhassebedji), being appointed by the Superior Sanitary Council, which, according to the stipulations, appoints and dismisses the sanitary officials. The Sanitary Council will therefore agree to the appointment of Dr. Zitterer, whom the Turkish Government has made inspector-adjoint, but only on condition that the Government shall not hereafter endeavour to encroach on the rights of the Superior Sanitary Council and shall sanction only the appointments that this council makes. Dr. Zitterer is a graduate of the medical school of Constantinople, having taken his degree more than 40 years ago. At that time medical instruction was given in the French language and the teachers were professing Christians, but at present medical instruction is given in the Turkish language, the medical literature of which is not very rich.

Precautions against the Plague.

At the meeting of the Superior Sanitary Council held on March 5th it was resolved that hides and skins should no longer be regarded as capable of conveying plague, cholera, or yellow fever. No restraint will therefore be placed by the sanitary officials on their importation into the Turkish Empire.

Dinner to Dr. Torel.

Dr. Torel, medical officer of the French despatch boat stationed here, has had a seat on the Superior Sanitary Council for about two years as a French sanitary representative. Dr. Mirabel, médecin-en-chef des colonies, has now been appointed to this post and Dr. Torel is consequently about to return to France. His absence from the council will be much regretted, and his colleagues, as a mark of their esteem, have entertained him at dinner at the Cercle d'Orient, this being the first dinner given in honour of a member quitting the council.

The Antirabic Institute.

In recognition of Louis Pasteur's discovery of the antirabic treatment Sultan Abdul Hamid II. sent him the Grand Cordon of the Order of Medjidieh and a donation of 500 liras for the Pasteur Institute in Paris. Dr. Zoeros Pasha, by whom the decoration was conveyed to Paris, was instructed to make himself acquainted with the method of preparing the antirabic virus and with the other details of the treatment, and on his return to Constantinople he was appointed director of the Antirabic Institute here. Unfortunately, in consequence of some intrigue, he was compelled to resign his post and two new directors, both of them French medical men, have since that time been successively at the head of the institute. The results of the treatment of rabies appear to be less successful now than they formerly were and a painful impression has been recently created by the death of the director of the Greek school at Tatavla, a suburb of Constantinople. He applied at the Antirabic Institute the day after being bitten by a rabid dog, but in spite of treatment he died on the nineteenth day after the receipt of the bite. The case was discussed at a meeting of the Imperial Medical Society and was said by the director of the institute to be one of paralytic rabies.

Small-pox.

Small-pox has almost disappeared from Constantinople. At Medina, however, from the beginning of November, 1900, to the end of January, 1901, there have been 143 deaths from this disease.

March 20th.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Report of the State Board of Charities for New York for the Year 1900.

THIS report is an extremely voluminous document containing some 180 pages. It is of special interest this year, it being by no means unlikely that it will be the last issued by the board as now constituted, a Bill having been brought in, greatly favoured by Governor Odell, which will wholly alter the present methods of distributing and supervising the charities of the State. From the report recently published it is gathered that the recommendations for appropriations to the State institutions within the board's jurisdiction amount to $1,733,755 (£346,751), the amount recommended for maintenance being $1,108,800 (£221,760) and for extraordinary expenses, mainly for construction work, $624,954 (£124,991). A new table of statistics in the report shows the number of inmates in the 11 State institutions subject to the visitation and inspection of the board to have been 4250 on Sept. 30th, 1900. Most of these institutions appear to be in a fairly good state, exhibiting marked improvement since the last report. The New York State Soldiers' and Sailors' Home at Bath, according to the report, cannot be in a very promising condition. It is disgracefully overcrowded and new members are constantly seeking admission. The board recommends the erection of new barracks. The most serious evil at this home, however, is the presence of 14 public-houses, mostly of low order, at the entrance of the grounds. These are supported mainly by the pension moneys of the members of the home and with the well-conducted canteen on the institution grounds should be unnecessary. The report announces that a State hospital for the care of dependent crippled and deformed children, the measure for establishing which became law in April, 1900, is now in working order, but that the institution is hampered for lack of adequate funds. The recommendation is therefore made that the State should order a sufficient appropriation. The report refers to a law of 1900 by which the Legislature established the New York State Hospital for the Treatment of Incipient Pulmonary Tuberculosis, and states that as the site has not been yet selected there is at present no call for action on the part of the board. The report shows that there are 1600 deaf persons being educated at the various schools for the deaf in the State, most of them maintained at State, county, or city expense. During the fiscal year ending Sept. 30th, 1900, the total number of State poor provided for by the Department of State and Alien Poor was 2004 as against 2135 during the previous fiscal year, a decrease of 131. During the fiscal year the department removed 70 alien poor persons to their homes in other countries. The State Board of Charities is doing excellent work at present and has well fulfilled its duties in the past, so that there seems to be no predominating reason why the existing condition of things should be changed. The whole matter is ably set forth in a leading article in the *New York Medical Record* of

Feb. 16th, 1901, and a strong plea is urged against the abolition of the existing board.

Anti-vice Crusade in New York City.

A wave of reform is sweeping through New York. The movement was initiated by clergymen of all denominations, backed by respectable citizens and headed by Bishop Potter. A committee of 15 has been formed to investigate the true condition of affairs and to suggest measures to stamp out or to check the evil. The physicians of New York are now interesting themselves in the matter, and at the meeting of the Medical Society of the County of New York, under the presidency of Dr. George B. Fowler, on Feb. 25th the subject was discussed. The chairman of the committee was present as was the head worker in the University Settlement, both of whom enunciated their views on the situation. Dr. Prince A. Morrow read a paper entitled "The Prophylaxis of Venereal Diseases in New York City: Medical Aspects of the Social Evil." Dr. Morrow first drew attention to the ravages caused in the community by venereal diseases and to the apathy evinced by medical men with regard to their prevalence. He said that at the present day the extermination of every contagious disease was the watchword of modern sanitary science, yet there was not a single city in the United States in which these diseases were subject to sanitary supervision. The arm of the law should be invoked in suppressing low dance halls, in raising the age of consent to 21 years and in meting out the severest punishment to the men and women who made a business of selling human beings into something worse than slavery. Public opinion, which often had a force independent of its merits, forbade the establishment in the United States of the European continental system of restriction. It had been tried in St. Louis for about a year, but had then been swept from the statute books by an avalanche of protest, principally from women and clergy. Dr. Morrow ended an eloquent address by saying that a higher order of education and *morale* among men must be looked to as the best means of diminishing prostitution. The vast majority of fallen women became so fallen not from choice, but because of hard social lines that forced them into the life. Society should deal with them as unfortunates rather than as criminals. Dr. Frederick R. Sturgis, in criticising Dr. Morrow's remarks, took a different stand on the matter. He doubted that syphilis was the fatal disease it was asserted by some to be, and averred if it were that the population of towns would be decimated. He was strongly of the opinion that alcoholism was far more dangerous to health than were venereal diseases. Dr. Sturgis urged that the most effective means of curtailing the spread of syphilis and gonorrhœa would be restrictive measures rigidly carried out. He protested against sufferers from venereal diseases being regarded as martyrs and treated free, and said that the physician who mixed medicines with morals was sure to come to grief; his true function was to show the people where the dangers lay. Dr. Charles W. Allen said that he was convinced that venereal disease was on the increase in New York and that in the first instance steps should be taken to control those people who would go out from the hospital while in the infectious stage of the disease. He also suggested, as he had done 10 years before, that the subject of syphilis should be made so much more public that the general reader might be instructed a little more and might thus be enabled to understand what family syphilis meant to the community. The chairman of the committee of 15 and the head worker in the University Settlement both agreed that the first and most important step forward must be with the medical profession, who must educate the people and so shape public opinion that the efforts of laymen in the same direction would be accepted and appreciated. Sexual vice is rampant in New York, more so probably than ever before, and it is a good sign that influential citizens are beginning to appreciate their responsibility.

Trial of Male Nurses attached to the Bellevue Hospital.

The public outcry against the reported condition of affairs in Bellevue Hospital culminated in three of the male nurses attached to the insane pavilion in that institution being put upon their trial for the murder of an inmate. The patient, a man named Hilliard, died suddenly, and upon a necropsy being performed by the coroner that official declared that his death was caused by injuries, among which was the fracture of the hyoid bone. These injuries were the outcome of violence, and witnesses were forthcoming who testified that they had seen the three nurses use very rough treatment to the deceased lunatic. Other witnesses declared that the man must have received his injuries while in Bellevue Hospital as he was free from bruises when he was admitted. At the trial of one of the nurses the evidence for and against was very conflicting, but finally it was found by the jury that there was not sufficient direct evidence to convict the nurse, and consequently he was acquitted. The verdict upon the whole must be esteemed a just one, the majority of the medical expert witnesses asserting that the dead man's injuries were not severe enough to cause death. At the same time conclusive proof was brought forward to show that unnecessary violence had been used on more than one occasion in the insane pavilion in Bellevue Hospital. Undoubtedly the public showing up of the New York municipal institutions will be productive of nothing but good, as it will pave the way for the introduction of drastic reforms and will be the means possibly of removing them from the control of politicians and placing them in the position which all rightly-managed charitable establishments should occupy. The other two nurses will shortly come on for trial upon the same charge as the one who has just been acquitted, but judging from the result in his case it is only reasonable to suppose that they, too, will be freed.

Mr. Reginald Harrison has been spending a holiday in the United States as the guest of Dr. Frederic S. Dennis, Hon. F.R.C.S. Eng. Mr. Harrison gave an interesting lecture in the new Cornell Medical College building which has been erected through the private munificence of Colonel Payne. The subject of his lecture was "The Prostate, Lithotomy, Renal Tension, and Antiseptics in reference to Genito-Urinary Surgery."

March 20th.

Obituary.

ARTHUR COPPEN JONES.

MR. ARTHUR COPPEN JONES, who was well known as a bacteriologist, died in the thirty-sixth year of his age at Davos Platz, on March 8th. For many years he had made Davos his home. Before his health broke down 15 years ago he had studied comparative anatomy under Huxley. When his health had been partly re-established he took up the study of bacteriology under Koch in Berlin. Later he did a valuable piece of original work on the morphology of the tubercle bacillus. His paper in the *Centralblatt für Bakteriologie* at the beginning of 1895 brought forward evidence that the tubercle bacillus should really be regarded as belonging not to the bacteria but to the moulds. In accordance with this view, and to indicate the resemblance to actinomyces in mode of growth in pure culture, he suggested the name "tuberculomyces" in place of the name in common use. For the last few years Mr. Jones was a great invalid, suffering much. Nevertheless he had the energy to produce the excellent translation of Fischer's book on the "Structure and Function of Bacteria," which appeared a few months ago under the auspices of the Clarendon Press. To old readers in the London Library Mr. Jones's father, the late Mr. J. E. Jones, was a familiar figure. Mr. Jones was an interesting talker and a pleasant companion. He will be greatly missed by the residents of his adopted home.

DEATHS OF EMINENT FOREIGN MEDICAL MEN.—The deaths of the following eminent foreign medical men are announced:—Dr. J. H. Linsley, formerly Professor of Pathology and Bacteriology in the University of Vermont.—Dr. Dufraigne, formerly Senator for Seine-et-Marne.—Dr. Busey, formerly Professor of Materia Medica in the University of Georgetown, Washington.—Dr. Emil Kammerer, Oberphysicus of Vienna, to whom the city is greatly indebted for its sanitary organisation. He was only 54 years of age.

LITERARY INTELLIGENCE.—Under the title, "A Tour through North Eastern Ireland," Sir John W. Moore, ex-President of the Royal College of Physicians of Ireland, is writing some descriptive papers in the *Leisure Hour* for March and April. Intending tourists in the Emerald Isle should read these chapters by one who, as a prominent medical man, is able to know how well his country is adapted to supply the seeker after health and recreation.

Medical News.

SOCIETY OF APOTHECARIES OF LONDON.—In March the following candidates passed in the subjects indicated:—

Surgery.—W. A. Brown, McGill; P. J. R. Bucknill (Section I.), Manchester and Dublin; R. Gillett (Sections I. and II.), Royal Free Hospital; J. I. Halstead (Section II.), Manchester; J. J. Haverson, London Hospital; W. J. Hogg (Section I.), Belfast; F. P. Joscelyne (Section I.), Leeds; C. A. Lower (Sections I. and II.), Guy's Hospital and Bristol; J. C. McCarroll (Section I.), Belfast and Middlesex Hospital; F. McTavish (Sections I. and II.), Toronto; C. G. Meade (Section II.), St. Bartholomew's Hospital; A. C. Oliver (Sections I. and II.), Charing-cross Hospital; and H. Smith (Section I.), Birmingham.

Medicine.—J. W. Bowd, St. Bartholomew's Hospital; W. A. Brown, McGill; P. C. Burgess (Section I.), Middlesex Hospital; H. P. Fox (Sections I. and II.), London Hospital; F. P. Joscelyne (Section I.), Leeds; J. Kemp (Sections I. and II.), Manchester; B. S. O. Maunsell (Section II.), St. Bartholomew's Hospital; J. C. McCarroll, (Section I.), Belfast and Middlesex Hospital; and W. B. Skelton, Guy's Hospital.

Forensic Medicine.—G. Aldridge, London Hospital; W. A. Brown, McGill; P. J. R. Bucknill, Manchester and Dublin; H. N. Collier, Guy's Hospital; W. P. A. Hardwicke, Durham; A. T. Harvey, London Hospital; D. T. Jones, Middlesex Hospital; F. P. Joscelyne, Leeds; J. Kemp, Manchester; J. C. McCarroll, Belfast and Middlesex Hospital; P. G. Sheppard, Cambridge and Liverpool; W. B. Skelton, Guy's Hospital; and C. H. Williams, St. Bartholomew's Hospital.

Midwifery.—J. W. W. Adamson, St. George's Hospital; J. B. Bradley, Birmingham; W. A. Brown, McGill; A. T. Harvey and J. J. Haverson, London Hospital; H. C. Hocken, Cambridge and Westminster Hospital; F. P. Joscelyne, Leeds; F. M. Payne, Royal Free Hospital; W. B. Skelton, Guy's Hospital; A. F. Van Dijk, St. Bartholomew's Hospital; and C. M. Woods, Charing-cross Hospital.

The diploma of the Society was granted to the following candidates, entitling them to practise medicine, surgery, and midwifery:—G. Aldridge, W. A. Brown, H. P. Fox, F. McTavish, A. C. Oliver, and C. H. Williams.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. August Wasserman has been recognised as *privat-docent* of Hygiene.—*Cracow:* Dr. S. Mazlarski has been recognised as *privat-docent* of Histology.—*Göttingen:* Dr. Schiek of Halle has been recognised as *privat-docent* of Ophthalmology.—*Rome:* Dr. Boari has been recognised as *privat-docent* of Surgical Anatomy and Operative Medicine, Dr. Lo Monaco as *privat-docent* of Experimental Physiology, Dr. Jacoangeli as *privat-docent* of Experimental Pharmacology, Dr. Bastianelli as *privat-docent* of Medical Pathology, Dr. Caselli as *privat-docent* of Surgical Pathology, and Dr. Berghinz as *privat-docent* of Psychiatry.—*Würzburg:* Dr. Burckhardt has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Zürich:* Dr. Ernst Heuss has been recognised as *privat-docent* of Dermatology.

THE LONDON SCHOOL OF TROPICAL MEDICINE have signalised the successful working of the first 15 months of the school by the issue of a little *brochure* containing a report for the year 1899–1900, together with an account of the origin, progress, aims, and requirements of the school. Among the tropical diseases treated during the period mentioned we notice that there were 55 cases of acute malaria, four cases of chronic malaria, 29 cases of beri-beri, seven cases of guinea-worm, and four cases of plague. In the list of students who have passed through the school since Oct 1st, 1899, will be found the names of nine qualified medical women. At the present time upwards of 120 post-graduate students have passed through the school.

SEASIDE CAMPS FOR WORKING BOYS.—The thirteenth session of this useful organisation will open on Saturday, July 20th, and will close on August 31st. The camp, which was founded in order to give a seaside holiday to London working boys of good character whose means are too small to allow of a real holiday without help, is situated close to the sea and is under the charge of a commandant who while maintaining discipline teaches the boys to enjoy life, to learn about the country and the sea, to play games, and to get health and manliness so that they may return refreshed and strengthened to their work in London. The secretary is prepared to give lantern lectures on the subject on application to him at Northumberland Chambers, Charing-cross. The list of articles which each boy is required to bring with him to the camp does not, we notice, include an important aid to health—the tooth-brush.

INCREASED CHARGE FOR LUNATICS IN LANCASHIRE.—The Chorlton and the Prestwich Boards of Guardians have each received a communication from the Lancashire Asylums Board stating that at the last meeting the board had decided, on and after April 1st, to increase the weekly rate of maintenance for pauper patients received in the board's asylums from unions within the county from 8*s.* 9*d.* to 9*s.* 4*d.* The Chorlton Union has 731 patients in the county asylums, and the increased cost will make the yearly expenditure greater by £1108, and it will make a difference of between £300 and £400 a year to the Prestwich Union.

GENERAL HOSPITAL, BIRMINGHAM.—An influential and representative assembly attended the recent annual meeting at this institution. The annual report, the 112th, stated that there had been an increase of 347 in the number of in-patients and of 258 out-patients; the number of operations had advanced in three years from 1496 to 1702, and in 1900 to 1815. As to the finances during the past year the deficit of upwards of £700 had been reduced to about £1600. Sir J. C. Holder, Bart., intimated his desire to perpetuate the memory of the late Queen Victoria by dedicating a bed in the hospital as an "In Memoriam," an offer which was accepted, and subsequently a cheque for £1250, the amount required, was received from him.

SOCIETY FOR THE PREVENTION AND CURE OF CONSUMPTION IN THE COUNTY OF DURHAM.—A special court of governors of this society was held in the Town Hall, Sunderland, on March 19th, which unanimously sanctioned the expenditure of £1400 on the building of a new wing (to contain a large dining-room, kitchen, bedrooms for eight women, and bathroom for same); on the erection of a verandah on the south side of the main block; on the conversion of one of the present bedrooms into a bathroom for men; and on the conversion of a building into five additional bedrooms. These additions, which will be begun forthwith, will raise the accommodation to 25 beds and will comprise administrative accommodation for 40 patients and leave only 15 beds to be provided later in order to complete the society's scheme for 40 beds at Horn Hall Sanatorium, Stanhope. The chairman, Dr. Robinson, reported that the results obtained at Horn Hall had been as good during the winter as they had been during the previous summer and that they had quite come up to the expectations of the committee.

PRESENTATIONS TO MEDICAL MEN.—On March 8th a deputation representative of the parishes of Borthwick, Carrington, Heriot, Newbattle, Stobhill, and Tample, waited upon Mr. William Spalding, M.D. Edin., M.R.C.S. Eng., of Gorebridge, Edinburgh, at his residence, and presented him with an illuminated address and a cheque for £200 subscribed for by his many friends on his retiring from his public duties and professional activity during the long period of 39 years amongst them.—Mr. E. Sergeant, medical officer of health to the County Council of Lancashire, was the recipient of a presentation on March 22nd, subscribed for by the medical officers of health of the administrative county, on the occasion of his marriage in December last. The presentation was made in the Chemical Club rooms, Victoria Hotel, Manchester, the meeting being presided over by Mr. Chadwick, medical officer of health of Milnrow, who was supported by a number of medical officers of health. Mr. William Berry, medical officer of health of Wigan, made the presentation which consisted of a silver tray, silver fruit-knives and forks, and an album containing the names of the subscribers.—On March 22nd, at a meeting held in the Cottage Hospital, Auckland, of the governors and house committee, Mr. T. A. McCullagh, M.R.C.S. Eng., L.R.C.P. Edin., was the recipient of a testimonial, consisting of a valuable edition of Ruskin's "Stones of Venice," each volume containing an inscription stating that it was presented to him by the governing body and other subscribers as a token of esteem, and in recognition of his valuable services in connexion with the Auckland District Cottage Hospital as secretary and otherwise. At the same time Mrs. McCullagh was presented with a silver coffee-pot.—On the occasion of Dr. F. J. Allan resigning his post as honorary secretary of the London

Galloway Association, increased official duties being the reason of the resignation, the officers and council of the association presented to him with a gold ring and a set of four silver entrée dishes.

ANATOMICAL SOCIETY OF GREAT BRITAIN AND IRELAND.—The committee of management of this society has arranged to hold the summer meeting of the society in the Medical Department of the Yorkshire College, Leeds, on Friday, July 5th (3 to 6 P.M.), and Saturday, July 6th (10 A.M. to 12.30 P.M.). The society's dinner will take place on July 5th, at 7 P.M. Dr. Wardrop Griffith is making local preparations for the meeting, and it is desirable that members should as soon as possible intimate to him, at 43, Park-square, Leeds, their intention of being present, so that he may make suitable arrangements for them, as a large meeting is expected.

Mr. Henry George Hawkins Monk, who since 1895 has been medical officer of health of the borough of Leicester, has resigned that appointment for a similar position in Kimberley, South Africa. Mr. Monk went to Leicester from Scarborough, and through his energies many much-needed improvements have been effected in the former town. Three years ago, however, his health gave way, and to this fact is due his acceptance of a colonial appointment. Mr. Monk sails from Southampton in the s.s *Norman* on April 6th, and he will carry with him to South Africa the best wishes of the people of Leicester.

CHESTERFIELD AND NORTH DERBYSHIRE HOSPITAL.—On March 14th the annual meeting of the subscribers to this hospital was held in the Stephenson Memorial Hall. The report for the past 12 months showed an increase of 48 more patients than in the previous year. The hospital at intervals had been very full and the patients remained for treatment for an average of 36 days. Though the ordinary income amounted to £2147, and the legacies to £533 there was still a deficiency on the year of £1200. The subject of establishing a medical ward was introduced and after some discussion a generous offer of Alderman Eastwood in respect thereto was accepted, provided that adequate funds were forthcoming for its support from the general public.

NATIONAL ASSOCIATION FOR THE PREVENTION OF CONSUMPTION AND OTHER FORMS OF TUBERCULOSIS.—The second general meeting of members of the National Association for the Prevention of Consumption and other Forms of Tuberculosis was held at 20, Hanover-square, London, W., on March 25th, the Earl of Derby being in the chair. The chairman, in moving the adoption of the report of the council, said that the second general meeting of the association marked a distinct period in their history. He claimed for the association that it had directed public attention in a marked degree to the necessity of dealing with tuberculosis as an evil to be combated in every shape. The report of the council was a very complete and full one, and in the variety of the subjects mentioned it would be recognised that the association had advanced. They hoped that it was a progress which time would assist. Their financial position was not such as to cause anxiety. The council had arranged for the meeting of the British Congress on Tuberculosis on July 22nd, and he believed that distinguished men of science from the colonies and European countries had freely responded to the invitation to be present. The principle of the early isolation of tuberculous patients had been recognised by public bodies and in some measure had been already carried out in some of the large towns. Steps had been taken in some districts for the notification of phthisis and also for relief, provided that the family arranged for the patient having a separate sleeping-room and taking other simple precautions. The progress of sanatoria was being pushed on, and he was glad to be able to report that the work of the association was going forward, and he hoped it would lead to still greater things. Professor Clifford Allbutt, who seconded the motion, insisted on the importance of securing early treatment in tuberculosis. Sir T. Dyke Acland directed the attention of the executive to the fact that in large agricultural shows there was no regulation to prevent the admission of tuberculous animals. Dr. C. Theodore Williams considered that in regard to unhealthy occupations help should come from the State. The meeting terminated with a vote of thanks to the chairman.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, MARCH 21ST.

Unwholesome Tea.

MR. HENRY HOBHOUSE asked the President of the Local Government Board if his attention had been drawn to the quantities of inferior and unwholesome teas imported into this country which were alleged to contain microbial products dangerous to health; whether the inspectors of the Board had power to seize, analyse, and condemn such teas, and to what extent such powers were exercised; and, if, in the interests of public health, he was willing to institute an inquiry into the best methods of checking the sale of such unwholesome teas by determining some minimum standard of purity and by securing a proper analysis of such teas before they were blended with other teas.—MR. LONG replied: The Local Government Board have no definite information as regards the matters referred to in the first paragraph of the question. Under the Sale of Food and Drugs Act, 1899, the Board may in certain circumstances direct an officer to procure samples of tea for analysis. The result of the analysis is to be communicated to the local authority, and thereupon it becomes the duty of the local authority to cause proceedings to be taken just as if they had caused the analysis to be made. The Public Health Acts contain provisions under which articles of food which appear to be unwholesome or unfit for the food of man can be dealt with by officers of local authorities. I am not at present aware of sufficient reason for any such inquiry as that suggested.

Borax in Food.

MR. LONG, in the course of an answer to a question on this subject, which had special reference to Professor Thorpe's statement at a recent meeting of the Arsenical Poisoning Commission that he had found no borax of commerce free from arsenic, said that if it should appear that mixing borax with any article of food rendered it injurious to health, a person so mixing it with intent that the article may be sold in that state would be liable to proceedings under the existing law.

Vaccination in Poor-law Institutions.

MR. GODDARD asked the President of the Local Government Board whether officials appointed by a board of guardians were or were not under the immediate control of the board of guardians appointing them; and whether the superintendent of a home under the board of guardians could cause the children in such home to be vaccinated independently of the wishes of the parents or of the guardians.—MR. LONG: The duties of the more important officers of a board of guardians are prescribed by statute and by regulations made by the Local Government Board or their predecessors. The regulations generally contain a provision to the effect that the officer is to obey the lawful orders and directions of the guardians applicable to his office. The view of the Board is that under ordinary circumstances a child in an institution such as that referred to in the question should not be vaccinated if the parent or, in the case of an orphan or deserted child, the guardians, object.

Medical Officers of Health and the Diseases of Animals.

MR. FIELD asked the President of the Local Government Board whether any, and if so what, test of knowledge of the diseases of animals was required from candidates before being appointed medical officers of health.—MR. LONG replied: No test of the kind referred to is required by law.

Poor-law Patients and the Franchise.

MR. HENRY J. WILSON asked the President of the Local Government Board (1) whether he was aware that electors were disfranchised if they or members of their family dependent upon them were treated as patients in a workhouse hospital even though the guardians of the poor received full payment from the elector or his friends for the cost of treatment, and that the same disfranchisement took place if, owing to lack of hospital accommodation, the municipality arranged with the guardians for infectious cases for which the municipality was responsible to be treated at the workhouse hospital, and the municipality paid to the guardians the full cost of such treatment; and (2) whether the Government would take steps to prevent such disfranchisement taking place.—MR. LONG: I am not aware that the allegation contained in the first paragraph of the question is correct. I have no authority to determine whether an elector is disfranchised under any of the conditions referred to in the question or to take any steps in the matter, but so far as I am able to form an opinion a person would not be disfranchised in the circumstances stated.

The Holidays of Poor-law Medical Officers in Ireland.

MR. DALY asked the Chief Secretary to the Lord Lieutenant of Ireland whether he had called for the resignation of those officials connected with the Local Government Board who had been compelling boards of guardians in Ireland to give compulsorily four weeks' holidays to medical officers previously to the decision of the Court of King's Bench in this matter; and whether, seeing that this order cost the boards of guardians about £10 000, he would direct a refund.—MR. GEORGE WYNDHAM said that his reply to both questions was in the negative.

FRIDAY, MARCH 22ND.

The Plague at Cape Town.

MR. CHAMBERLAIN, in the course of a reply to a question on this subject, said that to check the plague the Cape Government were doing everything in their power under the advice of Professor Simpson, one of the best experts, and were having six medical men sent out specially for plague duty.

Inspection of Meat for Tuberculosis.

MR. LONG said, in answer to a question, that the Local Government Board had no prescribed regulations for the guidance of medical officers of health and sanitary inspectors with regard to the examination of meat for tuberculosis. The Royal Commission laid down certain principles which, in their opinion, should be observed in the inspection of tuberculous carcasses of cattle, and the Board in March, 1899, drew the

attention of all sanitary authorities to this matter and stated that the authorities should direct those of their officers who were employed as meat inspectors to act in accordance with the principles laid down by the Royal Commission.

SATURDAY, MARCH 23RD.

Case of Plague at Southampton.

MR. JOHN CAMPBELL asked the President of the Local Government Board if he could give any information as to the reported case of plague at Southampton, and what measures were being taken to prevent the spread of the disease.—MR. WALTER LONG replied: The case referred to is that of a Lascar who was one of the crew of the *Simla* and came under the consideration of the ship's surgeon when the vessel was two days out from Cape Town. Though regarded with some suspicion the case was deemed not to be one of plague and on arrival at Southampton the man was sent to hospital for the local abscess to be opened. This having been done and matter from the abscess having been bacteriologically examined the case was ascertained to have been one of bubonic plague. The man is now convalescent. An inspector of the Local Government Board has visited Southampton and he reports that all necessary precautions had been taken by way of disinfection and for keeping under observation the various persons with whom the man had been associated during the voyage and afterwards.

TUESDAY, MARCH 26TH.

The London Water Question.

At this sitting there was a long debate on the motion for the second reading of the Bill for the purchase by the London County Council of the undertakings of the eight companies which supply the metropolis with water. The Government opposed the Bill and promised to introduce next year, and endeavour to pass, a Bill based on the recommendations of the Royal Commission presided over by Lord Llandaff. The House threw out the Bill by 253 to 176 votes

WEDNESDAY, MARCH 27TH.

Beer Bill.

By 245 votes to 133 the House decided to give a second reading to the Beer Bill, a measure designed to enable consumers to distinguish between beer made from barley and hops and beer containing other ingredients. Sir MICHAEL FOSTER spoke in opposition to the Bill, claiming that it was a retrograde measure and opposed to the march of science. He said that the epidemic in the Manchester district ought to have been foreseen, that if there had been an adequate watch over the materials used for the preparation of food it would have been known that since the South African war had used up all the sulphur the manufacturers of sulphuric acid had been resorting to pyrites. Invert sugar was not cheaper than malt and was used to supplement the alcohol obtained from the malt, and whether glucose was got from cotton waste or from German sawdust the ethylic alcohol was the same. Brewing, he said, was becoming a scientific occupation. Every year it was improving and the tendency was to produce for the consumer a better and more wholesome article at a lower price.

ROYAL COMMISSION ON ARSENICAL POISONING.

FRIDAY, MARCH 15TH.

THE Commission met again to-day with the same attendance as at the previous meeting and with Lord KELVIN presiding.

MR. E. O. SIMPSON, solicitor, attended on behalf of Messrs. NICHOLSON, chemical manufacturers, Leeds, and intimated to the Commissioners that his clients had prepared a statement for submission to them. He was prepared to hand in the statement now but he asked that its public reading and any examination upon it might be postponed until, if possible, the legal action now pending with Messrs. Bostock had been disposed of.

The CHAIRMAN said that the Commissioners were perfectly willing to accept the statement now and postpone its public reading and examination upon it until a reasonable and suitable time, though they could not give a pledge that the postponement would be until after the decision of the legal action.

Dr. JOHN TATHAM of the Registrar-General's Office, examined by the CHAIRMAN, said that since he had been requested to attend in order to furnish the Commission with such information as could be gleaned from the national death register with respect to the mortality of certain diseases now the subject of inquiry by the Commission, he had had the advantage of perusing the most instructive report on arsenical poisoning submitted to the Local Government Board by Dr. Buchanan and as a result he had been able to see the kind of information that would be useful to the Commission. Up to the present time neuritis had not been separately classified in the Registrar-General's report. Ordinary neuritis was classified under the heading of nervous diseases, arsenical neuritis under arsenical poisoning, and alcoholic neuritis under alcoholism. About the middle of last year in abstracting the details in England and Wales for 1899 they noticed a considerable access of death return under the head of neuritis. It was some two or three months before they in London heard anything of the epidemic of arsenical poisoning in Lancashire. Some of the deaths were returned simply as neuritis, others alcoholic neuritis. When they came to abstract the details for 1900 he made arrangements that the deaths from neuritis should be separately classified in all possible detail, and by the end or shortly after the end of May he hoped to have that process complete. He hoped then to be able to give the Commission the number of deaths directly attributed to poisoning by arsenic, lead, and other mineral poisons, the number of deaths definitely ascribed to alcoholism as well as those frequently found to be associated with it, and the number of deaths ascribed to a combination of any of these causes.

By Sir WILLIAM S. CHURCH: The term neuritis had been very much more used in recent years than formerly. To go back for many years would be a troublesome and expensive process and he feared the result might be misleading.

Evidence of Dr. F. W. Tunnicliffe.

Dr. F. W. TUNNICLIFFE, Professor of Materia Medica and Pharmacology in King's College, London, was the next witness examined. His evidence had reference to his researches in association with Dr. Rosenheim upon selenium compounds as factors in the recent poisoning epidemic. He said that he and Dr. Rosenheim were able to obtain for analyses a sulphuric acid manufactured by Messrs. Nicholson which they had every reason for believing was used in the making of Messrs. Bostock's brewing sugar. This acid contained 0·3 per cent. of selenious acid and a relatively small amount of arsenious acid, 0·3 per cent. They further examined several other commercial sulphuric acids, one of which was said to be implicated in the epidemic. This, however, they doubted. The other acids were obtained in the open market from well-known makers. They all contained selenium in small quantities. One of them was practically free from arsenic. The highest amount of selenium found by them in a sulphuric acid was lower than that found by Drinkwater—namely, 0·4 per cent. in a commercial sulphuric acid examined by him. The results of witness and Dr. Rosenheim with regard to the presence of selenium in the practically arsenic free acids confirmed those of Schlactenhauffen and Pagel. The conclusion of importance to be drawn from these results was that from time to time there apparently cropped up a commercial sulphuric acid containing a dangerous quantity of selenious acid, and this latter might or might not be accompanied by an equally dangerous amount of arsenic. Hence it would seem advisable that sulphuric acid intended for use in the manufacture of food-stuffs should be supervised with regard to selenium as well as with regard to arsenic, especially as there should be no difficulty in freeing sulphuric acid from selenium. It seemed to him that it should be a comparatively easy matter to separate selenium from sulphuric acid.

By Professor THORPE: He only regarded selenium as being a factor, not as being at the bottom of the mischief. He was of opinion that the main cause had been arsenic, but the selenium had played a part—a subsidiary part. It was not the term brown oil of vitriol that awakened their suspicions; they went down the list of impurities in sulphuric acid and they found selenium.

In further examination by the CHAIRMAN Dr. TUNNICLIFFE said that they next examined two sugars; in one (invert) which came to Bostock's and was used in the preparation of the beer implicated in the epidemic they estimated the selenium quantitatively; in the other (glucose) they simply demonstrated the presence of selenium. The invert sugar contained 0·1 selenium pro mille = 0·14 selenious acid, or 1 in 7000. The invert sugar from the same firm contained, according to published analyses, from 0·3 to 0·4 pro mille As_2O_3. In this connexion they made some experiments with regard to the behaviour of selenious acid in solutions of glucose. They found that this substance might be dissolved in sugar solutions to almost any extent, the resulting solution remaining perfectly clear. They made further an extensive series of experiments with regard to the behaviour of yeast in seleniated sugar solutions. They fermented sugar solutions containing selenious acid in quantities varying from 1 in 100,000 to 1 in 50. Generally speaking, the activity of the yeast, as measured by the production of carbonic acid gas, was not influenced by the presence of selenious acid. In the strong solutions, however, from 1 in 50 to 1 in 500, the activity of the yeast underwent a diminution. Even in the case of the 1 in 50 solution fermentation still took place. The only experiment made in this connexion previously was that of Chabrié, who found that no fermentation took place in a 3 per cent. solution of selenious acid. Yeast had the property of reducing some of the selenious acid to selenium and fixing the latter. In strong solutions (from 1 in 50 to 1 in 1000) under these conditions the yeast assumed a red tint, in some cases actually brick red. Even in solutions of 1 in 10,000 it became pinkish red. They estimated the actual quantity fixed by the yeast and found it to be very small. The selenium was not precipitated as such on the surface of the yeast cell, but was distributed in granular form throughout the cell substance. Under the microscope cyanide of potassium might be seen to dissolve completely out the fixed selenium. These observations entirely confirmed the results of Scheuerle upon the action of selenious acid upon bacteria and moulds; their activity (virulence) was not affected, and selenium was deposited throughout the body substance. They were able to demonstrate the presence of, and estimate the quantity of, selenium in two separate samples of beer emanating from the Salford Brewery, identical with that which was actually consumed by the sufferers from beer-poisoning. Sample A contained 6·2 milligrammes per litre = 0·38 grains per gallon (SeO_2). Sample B contained 5·8 milligrammes per litre = 0·36 grains per gallon (SeO_2). They understood from an independent analysis that this beer contained slightly under one grain of arsenic per gallon. These results showed that when an acid contaminated with selenium was used for the manufacture of brewing materials the selenium passed into the final product—namely, the beer; its quantity in this latter depending upon the quantity originally present in the acid. In the case of Nicholson's acid and Bostock's invert it was present in the beer in poisonous quantities. They made no experiments in regard to malt but he would point out that the flue-dust of certain coal and coke contained selenium. The pharmacology of selenium was practically entirely confined to experiments upon animals, but these were so clear and so numerous that the results might be applied with certainty to man. In this connexion selenium has been nearly always compared with arsenic. It was a known fact that arsenic produced the same symptoms in animals as it did in man, and they might with certainty assume the same to be true of selenium. Japtha in 1842 took selenium himself and found that even the metal itself produced marked tissue wasting. Rabuteau, in 1869, from experiments upon animals regarded SeO_2 as having the same action and the same toxic power as As_2O_3. Czapek and Weil, in 1893, came to the same conclusion as Rabuteau; they found that 0·003 grammes (pro kilo body weight?) of SeO_2 killed in a few hours dogs, cats, and rabbits. Chabrié arrived at the same result. This observer noticed a symptom in selenious acid poisoning of interest—namely, the fact that it caused greatly increased bronchial secretion (bronchitis). This had often been observed in arsenical poisoning in man and might very likely be due to the contamination of the arsenic with selenium. Both Chabrié and Czapek and Weil concluded that acute poisoning by selenious acid was similar in all respects to acute poisoning by arsenious

acid. The subject was next taken up by Modica, 1897-98. So far as acute poisoning was concerned he entirely confirmed the results of former observers; he, however, made a most important addition to their knowledge of the subject in that he produced chronic poisoning by selenious acid and compared it at the same time with that produced by arsenious acid. He gave animals doses of selenious acid continuously for 40 days. His results were most important with regard to the subject in hand. He showed that selenious acid caused paralysis, wasting, and degeneration of the hair and inflammation of the subcutaneous tissue. He further showed that although in the case of the arseniated animals he had, in order to produce symptoms, gradually to increase the dose of arsenic given; in the case of the seleniated animals he had to diminish it or the animals would have died. In other words, that whereas the animals became tolerant to arsenic the poisonous action of selenium was cumulative. This author in a further research upon the action of selenious acid upon metabolism showed that the wasting was due, not as it usually was in arsenical poisoning to gastro-enteritis—i.e., to diminished assimilation—but to increased nitrogenous waste (katabolism).

By Sir WILLIAM S. CHURCH: The experiments were made with several species of animals, including cats, dogs, rabbits, and frogs. Selenium had never been looked for as a source of poisoning in man in the past, but no doubt it would be in the future.

In further examination by the CHAIRMAN Dr. TUNNICLIFFE dealt with the application of the presence of selenium compounds in the beer and the pharmacology of this substance to the explanation of the symptoms in the Manchester epidemic. In this connexion he said:—

(*a*) The symptoms which undoubtedly arose from very small doses of arsenic are much more easily explainable when we remember that to the small dose of arsenic consumed a small dose of selenious acid must also be added.

(*b*) The almost entire absence of tolerance to arsenic in the Manchester patients is also probably to be explained by the presence of selenium compounds in that tolerance to this latter poison apparently does not occur.

(*c*) The marked occurrence of wasting in the Manchester patients occurring independently of gastro-enteritis is to be explained by the specific action of selenious acid.

(*d*) The occurrence of symptoms of so-called arsenical poisoning in cases in which the presence of arsenic in the ingesta was not shown and also explainable by selenious acid.

(*e*) The aberrancy of the symptoms of the so-called arsenical poisoning in former epidemics are probably due to the contamination of the arsenic with selenium in varying proportions.

Selenium, Dr. Tunnicliffe added, did not produce gastric symptoms to the same extent as arsenic.

Sir WILLIAM S. CHURCH said that he himself had seen several of the patients in Manchester and it did not strike him at the time that wasting was a very leading feature of the cases.

Dr. A. P. Luff Examined.

Dr. ARTHUR PEARSON LUFF, physician in charge of out-patients and lecturer on medical jurisprudence and on public health in St. Mary's Hospital, London, and one of the scientific analysts to the Home Office, gave evidence as to his work in connexion with the expert commission of the Manchester Brewers' Central Association. He said that he saw a large number of the poisoning cases at the Manchester Infirmary, the Crumpsall Infirmary, and the Hope Infirmary. The great majority of these cases were undoubtedly cases of arsenical poisoning, but modified by the diluted form in which the poison had been taken, by the actual amount of arsenic taken, by idiosyncrasy, and probably by the alcohol and other compounds taken in conjunction with the arsenic. In the great majority of cases the illness began with pains and loss of power in the feet, succeeded or preceded by tingling in the soles of the feet and pains in the calves. In nearly all the cases the extreme tenderness of the calves was a very marked feature. A peculiar huskiness of the voice was also present in a large number of the patients. Amongst the common early symptoms were also tingling of and loss of sensation in the feet and hands, followed by loss of power and ataxy, with a peculiar stepping gait. Pigmentation was one of the marked symptoms amongst the dark-complexioned patients, but was only present to a very slight extent among the fair-complexioned individuals. It generally started as an erythema on the upper part of the chest, thence spreading to the face and hands. This erythema was followed by pigmentation, which was especially evident in those regions where pigment normally occurred, but was also frequently present all over the body. In some cases the individual almost resembled a mulatto as regards the colour of the skin, whilst in others the resemblance to a case of Addison's disease was very marked. Of the other skin affections keratosis of the feet and occasionally of the hands and erythromelalgia were met with. The amounts of beer admitted to have been taken varied from two pints to 15 pints per diem, the average being about from four to five pints per diem. In one case only was the amount admitted to be below two pints, and that was the case of a female, aged 42 years, who, although most carefully questioned on the subject, would only admit the consumption of two glasses of beer a day, and of four or five glasses on Saturdays. Her case was one of well-marked peripheral neuritis, together with the characteristic gait, but with an entire absence of either arsenical pigmentation or any arsenical rash. In only five cases out of the 40 had any spirits been taken for some months, and then, according to the statements of the patients, only in small quantities and very occasionally. He was of opinion that the alcohol of spirits was not a factor in the production of the peripheral neuritis of any of the cases under consideration. In his experience the cases of arsenical poisoning at Manchester differed somewhat from the chronic arsenical poisoning with which he had formerly been acquainted, such as that caused by arsenical wallpapers and by the use of long-continued full medicinal doses of arsenic, in the marked character of the pigmentation and of the skin eruptions in so many of the cases. They also differed from cases of subacute arsenical poisoning in the general absence of marked affections of the gastro-intestinal tract. In his opinion the cases should be classed as intermediate between subacute arsenical poisoning and chronic arsenical poisoning as formerly understood. He was also of opinion that most probably the arsenic was taken in such quantities that had the amount been taken in a smaller bulk of fluid subacute arsenical poisoning would probably have resulted, but that being taken in such a large bulk of beer there occurred a rapid absorption of it from the stomach and intestines, and also a rapid elimination of a considerable amount of the arsenic by the kidneys. Another lesson probably taught by the epidemic was that the views hitherto held as to arsenic being a non-accumulative poison would probably have to be modified. Some of the symptoms point to the fact that the arsenic must have accumulated and have been retained in the system for a considerable period of time.

The Commission adjourned to meet again in Manchester on March 25th.

MONDAY, MARCH 25TH.

The Commission met to-day in the Town Hall, Manchester, for the purpose of examining certain local witnesses. Lord Kelvin was not present and the presidential chair was consequently taken by Sir William Hart Dyke, M.P., the other members of the Commission present being Sir William S. Church, Professor Thorpe, and Dr. Whitelegge.

Mr. R. G. H. THOMSON, manager of Threlfall's Brewery Company, Limited, gave an account of the methods of his company in regard to the use of invert sugar and described the precautions they now take to secure the purity of all brewing materials. Until the outbreak of the epidemic, he said, he had never heard of arsenical poisoning through the medium of beer and had never suspected such a thing. It was also news to brewers that malt could be impregnated with arsenic by the fumes from the fuel used in making the malt.

Dr. MILLER, consulting chemist to a number of the local breweries, bore out the statement that it was only since the epidemic that beer had been tested for arsenic, and said that any beer brewed at the present time in this country would show traces of arsenic if the test were made severe enough. With regard to the malt he said that many malts were now perfectly free from arsenic, but there still appeared to be a difficulty in some cases in getting this absolute freedom. He was of opinion that some test should be applied to the coke.

Professor H. B. DIXON of Owens College gave evidence as to the manufacture of sulphuric acid in this country and the quantity of arsenic usually present in the Spanish pyrites from which most of it was made.

Dr. T. N. KELYNACK was examined at some length with regard to the symptoms exhibited by the patients. The poor, he said, suffered most severely and although both men and women were affected the majority of the fatal cases occurred in women. He had no doubt in his mind as to the cause of the outbreak. In no case had he been able to trace the sugar to any other source than the Messrs. Bostock. In his opinion there should be a statutory test applied to all materials used in brewing. He suggested that there should be analytical laboratories established directly under the control of local authorities and subject to systematic inspection by experts acting under the direction of the Local Government Board.

Mr. W. KIRBY of Owens College gave evidence as to the results of certain analytical work.

The Commission then adjourned.

THE NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC.

SPECIAL GENERAL MEETING OF GOVERNORS AND SUBSCRIBERS.

UNDER the chairmanship of Lord HALSBURY, the Lord High Chancellor, a special general meeting of governors and subscribers was held at the National Hospital for the Paralysed and Epileptic on March 23rd for the purpose of considering, and if approved, of passing motions providing for an independent inquiry into the allegations contained in the statement issued by the medical staff to the governors in June, 1900, as a condition precedent to any reconsideration of the demand of the staff for direct representation upon the Board of Management and also laying down the conditions essential to be observed with reference to such inquiry.

The meeting was held in the out-patient room and there were upwards of 200 governors and subscribers present.

The LORD CHANCELLOR having been called to the chair said: The business which has caused the summoning of this meeting deals with a situation which undoubtedly is most injurious to the hospital but which seems to me, by reason of various conversations with different members both of the medical staff and of the board, to be very nearly approximating to settlement. In taking the chair I wish to profess myself absolutely impartial, but at the same time I do not dissociate myself from my colleagues on the Board, and I will explain how I think these two propositions are reconcilable. I am of opinion that the question which has given rise to the difference among us is one which may very properly be a subject of debate but which need not cause acrimonious discussion. We must all remember, and I am sure I strive to do so, that we are engaged in furthering an object which we all have at heart—the relief of suffering. Speaking not simply as a member of the Board of Management, but as one member of the State, nothing would seem to be more injurious to such an institution as this than a violent controversy between those who have the responsibility of the management and those men of great eminence and skill on the staff whose self-sacrifice and devotion to duty have undoubtedly been of inestimable advantage to those who benefit by this institution. But I decline to look at this meeting as if it were an array of hostile forces. It is rather my hope and belief that it will be conducted in that spirit of conciliation which animates all of us who are desirous of doing what is best for the hospital and for those who receive its benefits. And I am quite sure that if we are actuated by that spirit, and if, remembering that peradventure we are not all absolutely in the right, we make some little allowance for the faults and feelings of others, we shall arrive at a final conclusion of a matter which no one can doubt is most injurious to the interests of the hospital. For my

own part, I regard the question which has given rise to the controversy as one upon which my mind is really open. Although I voted with the Board on the question of representation of the medical staff upon the Board there is no doubt that there has been undoubtedly a statement of facts which, if they are true and if they are not remedied, would prevent me from consenting to be a member of the Board of Management for one day. These matters ought to be decided, and of course it would be perfectly idle to suppose in a meeting of this sort that we should admit the accuracy of allegations and denials without the least opportunity of investigating them. This meeting, I understand, is called together to decide to what extent these matters shall be investigated. So far as I am concerned, as soon as that is decided by the governors I shall be the first to bring forward the other question—viz., that the representation of the medical staff on the Board should be reconsidered. I hope that we shall be able briefly and harmoniously to determine the question now before us.

Mr. G. W. E. RUSSELL: I have been asked by my colleagues on the Board to move the first of the two motions which are, I suppose, in the hands of everyone. I will read the first motion which I have in charge:—

> *That inasmuch as the demand of the medical staff for direct elective representation on the Board of Management has been expressly based upon certain allegations contained in a statement that was issued by the medical staff to the governors in June, 1900, and inasmuch as it would be impossible to test the accuracy of such allegations at a meeting of the governors, it is hereby resolved that an independent inquiry into the accuracy of these allegations ought to precede any reconsideration of the demand of the medical staff.*

The Lord Chancellor has stated with perfect accuracy that this resolution concerns, not the rights and wrongs of the constitutional question whether the medical staff can claim direct elective representation on the Board, but a separate though not unconnected proposition. We are asked in the terms of this resolution to affirm that an independent inquiry into the allegations made in the statement issued to the governors last summer should precede the inquiry into the constitutional question. I am not going, therefore, to re argue the merits of the question of direct elective representation. Last summer it became my duty to state my views on the subject clearly and there is no need to re state them. But it is necessary to recapitulate the steps that have brought us to our present position. The demand of the medical staff is an old demand; it began and was formally made, if I am correctly informed, exactly 10 years ago. It was then opposed by the Board and fell for a time into abeyance. Other methods of communication between the Board and the staff were proposed in preference and were more or less steadily acted upon. Under one of these methods the medical staff sent two delegates to meet the Board to discuss medical questions and that is the form of procedure which was in use up till a recent date. In February, 1899, a rather acute controversy arose between the medical staff and the Board, the question at issue being not, as I can conceive, a medical question. Notoriously the expenses of this hospital in working and management have increased very rapidly. It would be carrying me out of my province to discuss this in detail, but the fact is absolutely without doubt. It became necessary to look round and see whether we could not raise the income of the hospital in something like the proportion of the ever-increasing demands made upon it. It occurred—I think I am right in saying this, though on this point I speak subject to the correction of Mr. Rawlings, our indefatigable secretary, who, whatever else he may be, has been a wonderful chancellor of the exchequer—it occurred to him as a good plan of increasing the income to sanction a small payment by such out-patients as were ready and willing to make it for the medicines supplied to them in this place, not for the treatment. That seemed to us on the Board not to be a medical question but one merely of finance and administration, and those are the questions which, if there are any at all, we consider ourselves competent to deal with and which we by our office and in virtue of our position ought to deal with. Therefore, we proceeded to sanction this alteration in our working system and the result is that we make about £800 a year for the hospital, a sum which cannot be regarded as an inconsiderable contribution to our income. It is a clear gain to the hospital. No hardship is inflicted and nobody is forced to pay. I am informed that the better sort of our patients are really eager to make this small acknowledgment of the benefits they have received by paying for their medicine. At any rate, that system of payment was decided upon by the Board, and I am bound frankly to state in opposition to what we knew to be the consensus of opinion of our medical staff. Shortly afterwards there arose a regrettable misunderstanding. The matter was made the subject of discussion and controversy between the medical staff and the Board, the medical staff being at that time represented by two delegates sent to discuss medical matters in the Board room. There was no doubt that our intention was that these two delegates should be present throughout any discussion on the subject which took place. Owing to an unfortunate accident at some adjournment of the discussion the two representative medical delegates were not invited to be present. So that at the very last stage, not at a preliminary stage, the final decision was taken in the absence of the two representatives of the medical staff. The medical staff then declined to continue the system by which they were represented on our Board by two delegates. They said it had broken down and they declined to carry on any continuance of it, thereby producing a deadlock in the official communications between the medical staff as a corporate whole and the Board, though free communication took place between individual members of the staff and the secretary-director of the hospital. The next step in the controversy came upon us as a very great surprise. In a document dated, if I remember right, May, 1900, that was circulated about June 16th, 19.0, a communication was sent out to the governors which most of us are familiar with. For the sake of refreshing the memory of my hearers I read the title: "To the Governors of the National Hospital for the Paralysed and Epileptic, Queen-square." It continues, "We, the members of the medical staff, think it our duty to bring before your notice the fact that to our knowledge the administration of the hospital is very unsatisfactory and that the reputation of the institution is in danger of being seriously compromised." The conclusion is, "In closing this brief survey of the present condition of the hospital, which the medical staff feel it their duty to submit to the governors, they call attention to the following conclusions, which have been unanimously agreed to:

1. That to safeguard the interests of the patients and the reputation of the National Hospital by coöperation of the Board of Management and the medical staff it is indispensable that the medical staff be directly represented on the Board of Management.
2. That in view of the impossibility of their continuing the work at the National Hospital under existing conditions the medical staff appeal to the governors to effect this necessary change in the management of the hospital."

That document was circulated to the governors of the hospital without any reference to the Board as such. Of course, those who were members of the Board were also governors and would receive it in the ordinary course; but it did not come before us officially and as a body, and when it did come to our notice as individual governors I confess that its receipt filled us with surprise. The document contains the following allegations: "The first matters on which the medical staff have to report to the governors are those affecting the immediate interests of the patients, as follows:—(1) the diet of the patients; (2) the condition, care, and treatment of the patients; (3) the nursing of the hospital; (4) on the cause of the maladministration of the hospital; (5) details of the manner in which the present administration has prevented coöperation of the medical staff and Board of Management." These last two items, (4) and (5), may now be disregarded. The items of which I am now speaking are those which set forth in very great detail and in very uncompromising terms allegations to the effect that the diet of the patients was wrong in quantity and quality, that their condition and care and treatment were unsatisfactory, and that the nursing of the hospital was not properly and efficiently organised. Now I say if these allegations are borne out by facts every one of us would feel that a very heavy responsibility lay at his own door. It was therefore a very great source of astonishment and regret to find that our medical officers had thought it necessary to commit themselves to statements of so grave a sort—statements which I must remind my hearers would amount to a heavy indictment against the persons having the oversight of the hospital; and I include not only the Board, but of course our very efficient representative, Mr. Burford Rawlings. We none of us knew that any of these complaints had been lodged by anybody, and as far as I was concerned they came to me as absolute novelties. I am not fond of talking about myself in public, but in one sense I am justified in quoting my own experience, because ever since I have had the honour of being connected with the hospital (which I originally joined at the earnest instance of Sir William Gowers), ever I have made it my habit to be in the wards constantly, that I may see as much as I can of the actual state and comfort of the patients. My ears have been always open to complaints and my eyes open to any abuses, if such were visible. I believe on my part that everything was worked as well as it could be in the hospital, the patients were well looked after and thankful for the benefits they had received, and a general tone of contentment reigned supreme. Great was the astonishment of myself and my colleagues when we found that our administration was so faulty as was alleged in the statement of the medical staff to the governors. Mr. Rawlings was equally unaware of any serious cause of complaint. We were, in a word, taken by surprise. We might have thought (I do not lay any stress on this) that it would have been better if our medical friends had made these representations directly to us in the first instance and then, if not satisfied, had reported the matter to the governors; but that was not the course which commended itself to them and they were entirely within their own rights in going to the governors; but when they had done that we were quite within our rights in investigating these allegations of mismanagement on our own account. Supposing the facts were as alleged the guilt must lie on those who were employed and paid by us for their services and upon ourselves for exercising insufficient vigilance in the interests of the patients. We called a sub-committee which sat during the hottest summer weather and investigated the wards and kitchens and every corner and section of the hospital. We examined all the witnesses who were most likely to add anything to our knowledge—sisters, nurses, and servants in succession. We reported that the charges had what I should call no substantial basis; they could only be made good in such small and irregular instances as must always occur, as I imagine, in the food arrangements of a very large institution which is served from one kitchen. When we had made up our minds and reported it was judged to be necessary to summon a meeting of the governors and that was done in August. It was an inconvenient time to us as well as to everybody else. No one would choose August as a suitable date for a public meeting in London, but it was the earliest possible date after the allegations had been made and inquired into, and we thought that we should allow no time to elapse before we put the result of the inquiry before our governors and judges. On that occasion the constitutional question was argued and was decided against the claims of the medical staff. The moment that decision was made known a rather fierce and acrimonious controversy began in the public newspapers. We had then arrived at the silly season when the newspaper people are only too thankful to have a little extra pabulum, and this really small dispute was by journalistic intervention and enterprise magnified and distorted to the very highest degree. Contributions poured in from some correspondents, some of whom I would say with great respect were not absolutely well informed on the facts at issue. With regard to my own part in that controversy it consisted in a reference to my speech made in this room at the August meeting. I then spoke from the material supplied to me by our professional advisers. I stated in referring to the practices of other hospitals in London that the Brompton Consumption Hospital was one of those which did not admit direct medical representation on its Board of Management. As soon as I had stated that a letter appeared in the *Times* from a very highly respected member of the profession, Dr. J. E. Pollock, saying that I was so far misinformed that at Brompton all the medical staff were honorary members of the Committee of Management. On receiving that authoritative contradiction I made haste in the *Times* to express my regret that I had been misinformed. But only the other day it happened that I received from Dr. Pollock himself, in reply to a question which I had put to him, a rather interesting piece of information. It was to this effect, that although at Brompton the members of the medical staff are ex-officio members of the Committee

of Management they are only entitled to speak there but not to vote. That is so extremely a different position from that claimed on behalf of our medical friends here that I think that my original statement made upon the authority of our advisers was not substantially very wide of the mark. I am reminded by Mr. Bower that Dr. Pollock also said that practically they only attended the Committee of Management when medical matters came up for discussion. During the autumn months this controversy raged with some acrimony, and by degrees during our autumn holiday we, most of us, severally came to the conclusion that those who had best right to be concerned in the matter—that is to say, the subscribers to the institution generally—were not entirely satisfied with the result of our domestic inquiry or with the vote taken at the August meeting. We had hoped that that inquiry would meet the case and would have brought the controversy to an end. But when we saw that there was uneasiness in the minds of those who have the interests of the hospital very sincerely at heart we came unanimously to the conclusion that a fresh inquiry should be undertaken into the allegations of mismanagement and that it should be undertaken by some competent external authority. I need hardly assure my hearers, among whom I recognise some old friends, that there was no inclination on our part to shrink from the fullest investigation of what we had done, imperfectly perhaps, but with good will, in the administration of the hospital during so many years. We welcomed the prospect of an inquiry conducted by some person whose occupation and habits of life have accustomed him to the sifting and weighing of evidence. We were not disposed to submit to that inquiry any question except the allegations of mismanagement. But it became evident, from communications which we had with our medical friends and others, that a much greater degree of public satisfaction would be attained if we waived our own opinion and allowed the constitutional question of representation to be included with the question of mismanagement in the scope of the inquiry; and with a view to carry out that twofold inquiry we invited, through the intervention of the Lord Chancellor, the good offices of an ex-judge of the Supreme Court, Sir Ford North; and although Sir Ford North was willing to place his services at our disposal the medical staff, speaking through the Medical Committee, declined to recognise an inquiry conducted by him and appointed by us. They refused to render assistance by appearing and giving evidence, which would be necessary in order to secure a thorough investigation of their charges. In December last, I believe, we yielded and conditionally consented to the inclusion of the constitutional question in the inquiry, only stipulating this much, that whoever should hold the inquiry should be entitled to consider not merely the demand of the medical staff for a particular form of representation—namely, the direct representation of two members on the Board—but also any other form of representation such as might be suggested by the experience of other hospitals or might commend itself to the minds of many of us as a more workable arrangement. Almost at the eleventh hour, hoping still to save anything like a pitched battle, if that be not too strong a phrase, we suggested to the medical staff that they should consider whether any of the alternative forms of representation, some of which my colleague, Mr. Pearman, was responsible for, would be acceptable to the medical staff. But we were told very emphatically and plainly that they would be satisfied with nothing but the one form on which they had set their hearts—namely, the direct election of two representatives to sit on the Board. (Cries of "Time, time.") The cries of "Time" are very apposite, as I have come to an end of what I have to say. The history has now been adequately presented and we have now arrived at a point where I hope a decision will be arrived at with something like practical unanimity. We invite an inquiry into the allegations which we consider still to be unproved and still unwithdrawn, the allegations into the mismanagement of our patients; and we consent to an inquiry into the question of some mode of securing medical representation on the Board. It is the first resolution which we are now asking your judgment upon. It is only a question of precedence. We ask you to affirm in the first resolution that the question of inquiring into these allegations should precede the constitutional question of representation of the medical staff on the Board. The demand for representation was based on the allegations in the original terms of the circular. (Loud cries of "No, no.") We therefore only ask you now to instruct whoever has charge of the conduct of this inquiry to investigate first the allegations of mismanagement. If they turn out to be well founded the constitution of the Board of Management will afford serious consideration to the hospital authorities. If they turn out to be ill founded it will be for the governors to consider whether the gentlemen who are responsible for such accusations can with advantage serve on the administrative body of the hospital. I therefore move the first motion.

Mr. F. C. CAPEL: I shall not detain you more than one minute. I have been asked to second the motion which would have been seconded by Lord Harrowby who unfortunately is ill. After what has been said by the mover of this motion it is unnecessary for me to add any remarks. I therefore second the motion.

Mr. MELVILL GREEN: I intend to move an amendment. I believe that most in the room have a copy of it. The motion before us should be read. It begins by stating that a demand of the medical staff for direct elective representation of two of their number to the Board of Management is based upon allegations issued in 1900 in the month of June—that is to say, it alleges that a demand which has been made for 10 years or more is based upon a paper issued last spring. That is a difficult statement to assent to and I would rather not try. The next statement is that it is impossible to test the accuracy of such allegations at a meeting of the governors. Quite so. It is impossible to ascertain a great many things in public meetings like this and therefore there should be an inquiry both full and complete and, to use the secretary's words, exhaustive. We are asked to pass a motion for an independent inquiry into the accuracy of these allegations and that this ought to precede any reconsideration of the demands of the medical staff. This is a very remarkable motion. It does not say that there is presently to be an inquiry into the demands of the medical staff. It does not even say that there is now to be an inquiry into the accuracy of the allegations. It affirms only this, that the inquiry should be two and not one and that one of these should precede the other—that is, the whole demand made by this motion. I am going to ask you to dissent from this view altogether. I do not want to refer to history because I am of opinion, as you mostly are, that the object of all of us should be to bring about harmony as soon as we can and as readily as we can, and I think that references to history, if they are faithful, are only likely to provoke further irritation. But I must go back as far as August 11th. I was very pleased with a remark which fell from the mover of the motion that the resolution arrived at in this room on August 11th was arrived at in the silly season. I quite agree with that. On August 11th and up to Dec. 10th the attitude of the Board was unmistakeable. The strongest language possible was used by Mr. Russell on August 11th as to the absolute impossibility of having any inquiry into the question of the demand of the medical staff. He refused the demand as strongly as possible, and mine was the only voice that demanded a full and complete inquiry, for I suppose everybody was out of town. (Cries of "We did not know of the meeting.") I daresay you did not. I am going to repeat to-day what I said then—in fact, I do not think that anybody will be able to say anything that has not already been said in the papers. But still it is necessary, after Mr. Russell's speech, to draw the attention of the meeting to the amendment that I have the honour to move. On Dec. 10th, then, and up to that day the Board were as anxious not to refer, as they are now anxious to refer to-day, the domestic management of the hospital by itself to inquiry. On Dec. 10th the Board, not spontaneously, but because their counsel showed them what a false position they had taken up, began to allow the admission of a wider inquiry. They added as a concession—and I think the staff were unwise to regard it as a concession—that the persons to make the inquiry were to be three instead of one. It secures that the umpire listens with attention to his two colleagues and that is all, and therefore I do not think much was gained by that. Those communications have been broken off and it is immaterial to us how or when they were broken off. I think if I was asked to say that either side have acted with uniform wisdom I could not. So long as there was a chance of the committee of inquiry being partial—that is to say, consisting of a man nominated by a member of the Board—so long were they willing to entertain a free inquiry; but directly that chance is over we have the motion of to-day, which Mr. Russell has told us includes an inquiry into the whole subject. Does it? Read it. It does not do anything of the kind. I do not think I need labour the point that it is necessary and essential that the staff and the Board should be in touch with each other. It is essential. We are told a great deal about hospitals which get on very well without the representation of the staff on the Board, but we have not been told of any one hospital where there is representation of the staff on the Board (and there are a great many) that produces any evil result. Why are these hospitals not quoted? The Board have had every opportunity of communicating with other hospitals, and they have not told us of one single instance of that kind. We can only judge for ourselves from our own experience, which in my case is very limited. I served for some years on an infirmary committee—my town does not boast of a hospital. There we have a rule that not only is every member of the staff a member of the committee, but there was a rule that the senior member should take care, when he could not be present himself, that one of his colleagues was present, so that we might never have a meeting without one of the staff being present. A friend of mine wrote to me yesterday and said, "If the experience of over nine years' chairmanship of a hospital committee of which the whole honorary medical staff are members *ex-officio* be of any service to your fellow governors you are at liberty to use it. In my experience their assistance is essential and I should resign the chairmanship of my committee at once if I was deprived of their assistance." I put it in this way, that we governors must either judge of this matter out of our own limited experience or else have an inquiry about it. The Board will not do it. It is nonsense to tell me that their resolution will meet the case. I propose this amendment:—

> "That a full and independent inquiry be at once instituted by the governors into the statement issued by the medical staff in May, 1900";

I do not say only it is desirable, I say it should be at once instituted. My amendment continues:—

> "the facility of intercommunication between the medical staff and the Board; including the demand of the former for direct representation on the Board";

and that surely raises all kinds of representations. I have reason to think I shall be told in a moment that my motion and amendment do not provide for any reference excepting the particular kind of representations that the medical staff have claimed. The wording is quite wide enough. The amendment goes on:—

> "the position, functions, and acts of the secretary-director";

and that is more necessary than anything else, for that position of secretary-director is unknown in the hospitals of this country. We governors do not know what it means, we only see that it is a very dangerous thing. My amendment concludes:—

> "and the constitution, rules, and management of the hospital generally."

The rules are framed with the effect that the governors are hampered on every hand from governing. We have not heard any reason why the inquiry should not comprehend everything I propose. If the state of the case be as I say the whole thing is one question, and what need is there of cutting the inquiry into two parts? It is suggested that the staff would be satisfied if they were put on the Board without any inquiry into the other things. I do not know whether they would or not. (Loud cries of "No, no.") So much the better. I know that these things would never have arisen if the staff had been represented on the Board. The Board does not understand the sort of influence that two men or even one man—members of the medical staff—would exercise on the Board. The Board themselves, being human, would be instructed by the presence of two medical men, just as the two medical men would be instructed in business matters by the Board. The Board throughout have never spoken of the influence of two members of the medical staff, but always of domination. They keep on saying that, as if the presence

of two medical men on the Board would mean the domination of the medical element over the lay element. Really the policy of fear which characterises this Board is a marvel to me. The Board is afraid of this inquiry. (Cries of "No, no.") Yes, you are. You are frightened of this inquiry. They are afraid of being dominated over by two men, but the charge is that they are dominated over by one man. Their own consciousness that they will yield to two is proof that they yield to one. Now we come to my actual proposal that there should be instituted an inquiry. The manner of the institution is left by my amendment exactly as it is by Mr. Russell's motions to be dealt with by subsequent motions to be carried out. If you carry my amendment you determine that there shall be an inquiry on as wide terms as it is possible to frame and I should wish the inquiry to be made as full and free as it can be. But my whole conception of a committee of inquiry differs from the conception of the Board. They want a sort of tribunal that will deal with the matter as if it were a lawsuit with a verdict for one side or the other. I do not. I want some people who will advise us, though the responsibility rests on the governors. The circumstance that for over 30 years we have never come forward does not in the least diminish our responsibility when such a question as this arises. We are bound to accept the responsibility in consequence of being governors. We cannot discharge that responsibility well unless we have a full and perfect inquiry and a complete report; that is why I want an inquiry so that we can see what ought to be done for the benefit of the hospital.

Sir JAMES CRICHTON BROWNE: I beg to second the amending motion, and in doing so I should say that the court of inquiry into the allegations as to the management or mismanagement of this hospital which is proposed in the motion submitted to us seems to me to have become a matter of secondary importance and a mere by-issue. For what the governors have now to decide is the fate and the very existence of this hospital which has hitherto played so great a part in beneficence and usefulness, and which, thanks to the labours of its medical staff, has attained world-wide renown. It is nonsense to talk about holy-stoning the deck when the ship is sinking, and the lame and partial inquiry which is now proposed to us ought not for one moment to divert our attention from the very vital question in connexion with this institution, and that is the representation of the medical staff upon the Board of Management. In these motions which have been circulated, and which we are now asked to adopt, it is stated that the demand of the medical staff for representation on the Board is expressly based upon certain allegations which are to be submitted to inquiry. That statement is entirely, I am afraid I must say deliberately, erroneous, for it must have been known to whoever prepared this resolution, as it is known to Mr. Russell, that the demand for representation has been persistently urged by the medical staff for 10 years before these things happened, and that the allegations were brought forward not as the foundation of that claim but as illustrations of the fruits—the inevitable fruits—of the present mode of management. The trivial and petty annoyances, the little indignities, the grave obstructions with which the members of the medical staff have, I understand, had to put up with for a long period of years, have culminated, as the staff have from the beginning foreseen that they would, in evils injuriously affecting this institution, and what we as governors have to do is to go to the root of the matter, to effect a reform which will at once put an end to those evils and to the cause and source from which they have proceeded. We must see that any inquiry instituted shall be thorough, searching, and conclusive. If we were to accept and pass this motion and authorise a preliminary inquiry we should not, when that inquiry was finished, be any further advanced than we are to-day. We should have wasted time and the funds of the hospital, and the really burning question—viz., the representation of the medical staff—would still remain to be decided. And remembering as I do that the Board of Management have said in print more than once that that representation shall have their unyielding opposition, I cannot but conclude that the inquiry that is proposed to us is somewhat evasive and illusory and is only calculated to cause delay or perhaps to get rid of the medical staff by a side issue. I have had the curiosity to examine for myself that statement of the medical staff to which reference has been made, the statement of June, 1900, and what I cannot understand is why that report was not at once submitted to the judgment of the governors to whom it was addressed. The Board of Management, without any reference to the governors to whom that report was addressed, dealt with it themselves and appointed three of their own number to inquire, not into the whole indictment brought against them, but only into two selected points in the indictment. And after that inquiry at which their accusers the medical staff were not represented and of which no minutes of evidence had been published,—after that inquiry they called the governors together by an irregularly summoned meeting in the height of the holiday season to ratify their own acquittal of themselves. We have to see that there shall be no repetition of a proceeding of that sort. If there is to be an inquiry it must be thorough and searching and complete and impartially conducted. It must deal with, not only certain allegations, but with all the allegations that have been made by the medical staff. The report or statement of the staff must be the subject matter of this inquiry whenever it is held, and all these allegations must be most diligently inquired into. I am much mistaken if the governors will consent to any limited reference, to any small inquiry. They will insist that all these allegations, including those having reference to the constitution and to the administration of the hospital, shall be inquired into. I would point out that the allegations of the staff were not, as has been suggested to-day, limited to the question of diet or nursing or the condition of the patients, but they included complaints as to the anomalous position and powers of the secretary-director, as to the abuses of the out patient department, as to the exaction of moneys from patients attending this charity, as to deficient accommodation for the nurses, as to the gradual effacement of the medical staff so that they have been, although they are honorary officers, deprived of their vote as subscribers to the hospital, and as to the rules and various other matters. The medical staff, I am sure, do not shrink from the inquiry. They are prepared to establish every statement that they have made, but they decline to have their professional status in this hospital postponed till after a preliminary inquiry as to draw-sheets and the boiling of potatoes. They say, and I think openly and wisely, "We cannot any longer acquiesce in the present state of things in the interests of this hospital of which we are so proud. In the interests of the patients to whom it is our duty and privilege to minister, and in the interests of our high responsibility, we demand a full and searching inquiry. We desire access to the Board of Management. We have asked from you the very small representation of two out of 12; and we feel sure that if that request of two be granted all need for inquiries will disappear and all dissensions will cease. But we challenge an immediate decision. For years past we have been pressing our views upon the management. We have tried all sorts of suggestions which they have suggested and which have ended in failures, and now we challenge an immediate decision. But that is in the hands of the governors, and by their judgment fairly and honestly ascertained we shall abide. If they accept our proposals we shall zealously exert ourselves as before for the welfare of the hospital. If they reject them and determine that the affairs of the hospital are to be placed unreservedly in the hands of the secretary-director then we shall accept their verdict and retire from the field." The medical staff for some time past have made the position perfectly clear. They have uttered no threats, but they have pointed out what seems to be the inevitable consequence of the line of conduct which is pursued by the secretary-director, and in looking over the correspondence that has taken place I am impressed with the belief (I trust I am doing him no injustice) that the secretary-director has been quietly working for the resignation of the medical staff. (Cries of "No, no.") At any rate, in that tortuous, curious document, with its copious rubric, that has been circulated lately, he contemplates the resignation of the medical staff with great complacency. He says, "The hospital may encounter worse evils than the resignation of the staff." I differ from him. The resignation of your staff in this hospital must mean irretrievable ruin. Remember that you have upon your staff 18 of the most eminent physicians and surgeons in London, men whose names are known and respected wherever medical science is cultivated, whose special skill is of incalculable value to the suffering poor. These 18 physicians and surgeons are unanimous and solid upon this question. If you lose them you will not replace them. Mr. Rawlings perhaps calculates that there are in all professions blacklegs. Let me tell him that the medical profession is unanimous. Our leaders, our journals, have submitted with no uncertain voice that if your staff resign there are no medical men who will consent to the humiliation and ignominy of stepping into their vacant place—at least, no medical men whom it would be good to entrust with the life of a sick cat. I am not going to insult your intelligence by repeating to you the arguments in favour of medical representation on the hospital board. The hospital is a medical institution and every detail of management must be ordered in accordance with the medical instructions and requirements. It will be just as reasonable to deprive the Board of Admiralty of its Sea Lords and to leave the navy entirely in the hands of civilians as to leave a hospital board of management without medical aid and advice. I do not know whether Mr. Rawlings is prepared to assume the command of the *Majestic*, but—I say it with all due respect—that he is just as equal to that command as to the direction of the National Hospital for the Paralysed and Epileptic without medical assistance. Admirable in the performance of his own duties as secretary—I am quite sure that every member of the staff will bestow unstinted praise on him in that capacity—in an evil hour he climbed to the directorate, hence the confusion that has resulted. Our *Majestic* is on the shoals. Every hospital board in this country avails itself in one way or other of medical assistance. The methods by which each does so vary in different cases. Where the medical staff is paid, as in certain old London hospitals, one method is adopted; where they are honorary officers other methods are used. But in all of them medical assistance and advice are obtained in some way, save this National Hospital in Queen-square, in which it appears to be tabooed. And it is just in this National Hospital in Queen-square that medical assistance and advice are so necessary, considering the obscure nature of the diseases dealt with and the technical character of the treatment to be carried out. Mr. Rawlings has insinuated that the exclusion of the medical staff from the Board of Management in this hospital is necessary to prevent the hospital from being overawed and prostituted to experimental practices, from being converted into a scientific workshop and laboratory, and he has tried to wriggle out of that accusation, but his words admit of no other interpretation and they have been correctly understood by Mr. Stephen Coleridge. Well, gentlemen, I am not surprised at the storm of indignation with which the medical staff have received that shameful appeal to vulgar ignorance and prejudice. Every hospital, every sick room, in this country is the scene of experimental practices. The administration of every dose of medicine is an experiment, and it is fervently to be hoped that the medical staff of this hospital, as long as there is one, will continue, in accordance with one of the great objects of the charity set forth in its charter in the very first page, to investigate and study the diseases of the nervous system and to increase our knowledge of these to the inestimable benefit of mankind. But to suggest that the medical staff desire to have representation on the Board in order to convert this hospital into a scientific workshop and laboratory in which mere knowledge will be sought with a callous disregard to the sufferings and lives of the poor is what we may call "striking below the belt." Mr. Rawlings does not allege that anything of this kind has occurred. He is apprehensive that it may happen, and so medical representatives are to be excluded from the Board. I suppose it is possible that at some future time some lay officer in the business department may misappropriate the funds; therefore men of business must be excluded from the Board of Management. The reasoning is absolutely parallel. Let me say to Mr. Rawlings that his humane apprehension constitutes the very strongest reason that has yet been advanced for the immediate election of medical representatives on this Board, for it is absolutely impossible for the Board as at present constituted to judge of the appropriate mode of any treatment or procedure that may be called in question. Picture to yourselves the Board as at present constituted called upon to decide as to the propriety of a dose of methyl-ethyl-chloro-benzine, as to the warrantability of removing a tumour from the ascending parietal gyrus of the Rolandic area, as to the responsibility of the nurses for a bed-sore in a case in which they have no knowledge of Charcot's researches and teaching. I could mention numerous instances like this of questions that would come before the Board. There is one case I will quote in which they have already gone astray for the want of medical assistance. Some time ago the Board decided that a small charge should be made to out-patients in this hospital for medicine when in the opinion of the officials they were able to pay it. I think that an objectionable arrangement and a misapplication of the

funds of the institution, which was not intended for patients able to pay. By adopting this system of selling medicines the hospital Board have brought the hospital within the provisions of the Pharmacy Act. A large number of medicines sold here contain arsenic, strychnine, atropine, and corrosive sublimate, and other drugs scheduled as poisons in the Pharmacy Acts, and the statutory regulation of the Act for the Sale of Poisons is that the ingredients of the medicine, together with the name of the person to whom it is sold or delivered, shall be entered in a book kept for that purpose, and the name and address of the seller shall be added to the same. Has that regulation been complied with in this hospital? I hear on most excellent authority that it has not, in which case the Board of Management have made themselves responsible for a long series of breaches of the Pharmacy Act. Could there be anything more ludicrous or conclusive as to the unsatisfactory nature of the present system than the fact that the Board of Management of this hospital has rendered itself liable to be summoned for breaches of the Pharmacy Act? I think not. I have great pleasure in seconding the motion that has been moved by Mr. Melvill Green.

A GOVERNOR: I want to ask if the circular sent out by the Board of the hospital has been sent to governors whose names appear as initials only, because it is not fair if they have not been sent?

Mr. BOWER: Some time ago the medical staff were informed that although it was impossible to give them the addresses of governors who desired to remain anonymous, yet any communication which the staff desired to address to those governors would be duly forwarded. In June, 1900, when the staff issued their statement to the governors, all the copies which were intended for governors who are represented in the list of donors by initials were forwarded by the Board to their respective destinations. Now I have been anxious to intervene in this discussion for some minutes. I have the privilege of not only being a governor of this hospital but of having acted as solicitor to the Board and assisted the Board in the conduct of this great controversy. I wish to explain in one word—and I shall testify my explanation in a manner beyond doubt before I sit down—that this first motion and the other motions to be proposed by the Board to-day are not designed to limit the inquiry, but are designed to lead to a full and absolute inquiry into all matters, including the important one of representation of the staff. In January last the Board passed resolutions providing for the most ample inquiry. These resolutions were communicated by me to the medical staff and as to the greater portion of our resolutions they were accepted by the staff. So that the position of matters was this, that we have come to an agreement with the staff as to the following points of reference that the inquiry was to include (I am now reading from a copy of the staff's resolutions): all the charges made by the staff in their statements, the question of intercommunication between the staff and the Board, the question of past administration of the hospital, the position, functions, and acts of the secretary-director, the existing rules and by-laws so far as any member of the Commission might deem necessary, the inspection of all books and documents as might be desired by any member of the Commission, and the demand of the staff for direct representation on the Board of Management. But then new difficulties arose. One was the intimation of the staff that they would resign if they did not get all that they demanded; the next was that we unfortunately differed from them as to the exact form of tribunal and the mode in which these matters should be referred and the mode which the inquiry was to be in. Now after careful consideration I advised the Board that it would not be practicable to put before a meeting of governors the motions providing in detail for everything that was to be done. We had agreed with the staff up to a certain point and these motions are moved and simply deal with the disputed point. They were designed to lead to a full and complete inquiry. I now am authorised by the mover of the Board's motion, by the seconder, and the Board to say that I have intimated to Mr. Melvill Green that the Board are prepared to accept his amendment. I have been deputed to do this because it was felt right that some explanation should be again made of the policy of the Board which was intended to be carried out by these resolutions.

The amendment was then put as a substantive motion and carried unanimously.

Mr. MELVILL GREEN: I hope the governors will remain to pass the resolutions for securing the impartiality of the inquiry. It is necessary that, the governors having determined that an inquiry shall be instituted, we shall arrive at a body of inquirers who will command the confidence of everybody. If anybody objects to anything, that will be a reason, in my mind, for adopting some other plan to which nobody could take objection. We want the inquiry to result in a report in which we shall all have confidence. It has been suggested that a committee of governors and subscribers (other than members of the Board or medical staff) be deputed to make all necessary arrangements for the constitution of a committee of inquiry. The details, as has been said by Mr Bower, are probably too numerous to deal with here. It has been suggested that if we appoint a committee of ourselves to make such arrangements we should be taking the most practical course. That would be followed by something of this sort. The committee so appointed will be instructed to place on the committee of inquiry at least one physician or surgeon, one eminent lawyer, one man engaged in commercial or financial pursuits, one man experienced in hospital management, and one other person. That makes five of all sorts and conditions of men. That will be followed by some proposal of this sort: "To empower the committee of inquiry to conduct the inquiry as they may think fit, authorising them to request the Board and staff to employ counsel if the committee of inquiry think necessary, and to provide that all necessary and proper expenses of the inquiry be borne by the hospital funds." But I am now moving only the first of these three consequential directions.

Mr. J. PEARMAN: I was deputed to propose the second of the Board's motions upon the card to-day, but the course which has been adopted and which I am far from finding fault with will render that altogether unnecessary. I was afraid that it appeared that the mover of the amendment, Mr. Melvill Green, was extremely angry with the Board of Management, and I think unnecessarily so, if you will allow me to say so. He was not aware at the time he cast so many aspersions on the Board of Management that at their meeting which was held a few minutes before this it was almost unanimously agreed by the Board that they would accept his amendment.

Mr. MELVILL GREEN: I had no idea of it.

Mr. PEARMAN: I hope that being the case the governors and the whole of the medical staff particularly will believe that the Board of Management have no desire or intention to burke inquiry in this matter. Nothing could be further from their thoughts, and if there was one thing which was nearer their hearts than another it was that there should be a thorough inquiry into the charges made by the medical staff, which were made, I am sure, by them with a full belief on their part that they were justified in making them. At the same time I cannot help believing, having sat on the committee of inquiry which was instituted by the Board, that those charges will, on investigation, be proved upon the whole to be substantially very much exaggerated. So far from the Board having views of their own as to reducing the scope of this inquiry they are in full agreement with Mr. Melvill Green. I have much pleasure in seconding that amendment which has been proposed by Mr. Melvill Green.

Mr. J. WIGAN: I think we are all agreed that the decision of to-day's meeting is of vital importance to this hospital. I have been a governor for nearly 40 years and I am a governor of St. George's Hospital and of other hospitals, and in all these there is medical representation, and I must repeat that we have done wisely in coming to-day to the decision that we have. The only question is that the form in which this is put before the governors shall be done in such a way as to be perfectly explicit. I think with reference to a remark made by a governor just now that every A, B, or C, D, shall also have the report who is not present and every initial shall also have the same document sent to him.

The motion was then put to the meeting and carried unanimously.

Sir HENRY BURDETT: Who are to be on the committee? I propose that Mr. Jonathan Hutchinson be one of them, the Earl of Dudley another, and that Mr. Melvill Green be a third. I see a number of ladies present and the hospital owes much to ladies, so I suggest that it would be a good thing that Mrs. Pearman be another. I would suggest that finance should be represented by a wealthy man who is also a governor. I refer to one who takes an enormous interest in the hospital—Mr. H. L. Bischoffsheim. He will serve, and I have ascertained that Mr. Hutchinson will serve.

Mr. MELVILL GREEN: I was going to suggest Sir Henry Burdett himself, Mr. A. Royle, Mr. J. Wigan, and Sir James Crichton Browne.

Sir JAMES CRICHTON BROWNE and Sir HENRY BURDETT expressed themselves unable to serve.

The CHAIRMAN: I think if the names are not accepted by the meeting *en bloc* they must be put up one by one and the vote must be taken for each in turn. I am only suggesting it because it is the ordinary mode of procedure and Mr. Melvill Green in the ordinary course is the proper person to suggest the names.

Mr. MELVILL GREEN: The list proposed is: Mr. A. Royle, Mr. J. Wigan, Mr. Jonathan Hutchinson, Sir James Crichton Browne, and Mr. Melvill Green. It has been pointed out that the names I have read include those of three medical men which must be balanced probably by others. I believe Mr Wigan has not the honour of being a doctor, but the others, excepting myself, are medical men. I am unable to suggest any other persons and really do not know the governors.

The choice of the committee led to a desultory conversation, the following names being finally chosen:—Mr. Jonathan Hutchison, Mr. H. L. Bischoffsheim, Mr. A. K. Hichens, Mr. Melvill Green, Sir John R. Paget, Miss Agnes Keyser, and Mr. J. Wigan.

The instruction to this committee in their choice of a committee of inquiry was finally settled as follows:—

> "To place on such committee of inquiry at least one physician or surgeon, one eminent lawyer, one man engaged in commercial or financial pursuits, one man not a medical man experienced in hospital management, and one other person, none being members of the Board or medical staff."

It was unanimously decided to leave to the discretion of the committee how far counsel should be employed in the inquiry, and it was agreed to pass no motion requiring the printing of the evidence taken.

The proceedings terminated with a vote of thanks to the Lord Chancellor for his excellent services as chairman.

BOOKS, ETC., RECEIVED.

ALLEN, GEORGE, Charing Cross-road, London.
The Literary Year-Book and Bookman's Directory, 1901. By Herbert Morrah. Price 3s. 6d. net.

BAILLIÈRE ET FILS, Rue Hautefeuille, Paris.
Les Rayons de Röntgen et le Diagnostic des Affections Thoraciques non Tuberculeuses. By A. Béclère. Price 1 franc 50 cents.

COLLINGRIDGE, W. H. AND L., Aldersgate-street, London.
The City of London Directory for 1901. Price 12s. 6d.

DAVIS COMPANY, Philadelphia.
Infant-Feeding in its Relation to Health and Disease. By Louis Fischer, M.D. Price 6s.

DENT AND CO., Bedford-street, Strand, London.
The Child: His Nature and Nurture. By W. B. Drummond. Price 1s.

HIRSCHWALD, AUGUST, Unter den Linden, Berlin.
Geschichte der Pocken und der Impfung. By Dr. P. Kübler. Price 8 marks.
Diphtherie (Begriffsbestimmung, Zustandekommen, Erkennung und Verhütung). By Professor Dr. E. V. Behring. Price 5 marks.
Nichtarzneiliche Therapie Innerer Krankheiten. Skizzen für physiologisch denkende Aerzte. By Dr. Buttersack. Price 4 marks.

Leitfaden für Operationen am Gehörorgan. By Professor Dr. F. Trantmann. Price 4 marks.
Leitfaden der Kriegschirurgischen Operationen. By Dr. Hermann Fischer. Price 4 marks.
Studien zu einer Physiologie des Marsches. By Dr. Zuntz and Dr. Schumburg. Price 8 marks.

JOHNSTON, GEORGE P., Edinburgh.
The Early Days of the Royall Colledge of Phisitians, Edinburgh: the Extended Oration of the Harveian Society, Edinburgh, delivered at the 114th Festival, by the President, Robert Peel Ritchie, M.D. Edin., F.R.C.P.E., &c. Price not stated.

KARGER, S., Karlstrasse, Berlin.
Lehrbuch für Wochenbettpflegerinnen. By Dr. Paul Ritsman. Price 1 mark 60 pfennig.
Atlas der Krankheiten der Nase, ihrer Nebenhöhlen und des Nasenrachenraumes. By Dr. P. H. Cerber. Price 6 marks.

KEGAN PAUL AND CO., London.
The Psychology of Reasoning, based on Experimental Researches in Hypnotism. By Alfred Binet. Translated by A. G. Whyte, B.Sc. Price 1s. 6d.

LEWIS, H. K., Gower-street, London.
William Hunter, Anatomist, Physician, Obstetrician. With Notices of his Friends, Cullen, Smellie, Fothergill, and Baillie. By R. Hingston Fox, M.D. Price 4s. 6d.

LONGMANS, GREEN, AND CO., London.
The Norwegian North Polar Expedition, 1893-96. Scientific Results. Edited by Fridtjof Nansen. Vol. ii. Price 30s. net.

MACLEHOSE AND SONS, Glasgow.
Manual of Diseases of the Ear, including those of the Nose and Throat in Relation to the Ear. By Thomas Barr, M.D. Third edition. Price 12s. 6d.

MALOINE, A., Paris.
Cours de Micéralogie Biologique. By J. Gaube. Price 4 francs.
La Tuberculose et la Medication Créosotée. By Dr. Samuel Bernheim. Price 10 francs.

METHUEN AND CO., Essex-street, London.
Practical Licensing Reform. By the Hon. Sidney Peel, Barrister-at-Law. Price 1s. 6d.

PUTNAM'S SONS, London and New York.
Text Book of Materia Medica for Nurses. Compiled by Lavinia L. Dock. Price 6s.

REBMAN, LIMITED, Shaftesbury-avenue, London.
A Handbook of Materia Medica, Pharmacy, and Therapeutics. By S. O. L. Potter, A.M., M.D. &c. Eighth edition. Price 21s.
Sexual Debility in Man. By F. R. Sturgis, M.D. Price 12s. 6d.
A Manual of Materia Medica and Pharmacology. By David M. R. Culbreth, Ph.G., M.D. Second edition. Price 20s.

SCOTT, WALTER, Paternoster-square, London.
The "Clincher" Guide of the Cycling Routes of England and Wales, with Map. Compiled by T. A. Edge. Price 1s.

SIMPKIN, MARSHALL, AND CO., London.
The Tea we Drink. A Demand for Safeguards in the Interest of the Public and Producer. By E. H. Skrine and George Brownen, F.C.S. Price 1s.

SPRINGER, JULIUS, Berlin.
Leitfaden der Therapie der Inneren Krankheiten, mit besonderer Berücksichtigung der Therapeutischen Begründung und Technik. By Dr. J. Lipowski. Price 4 marks.

UNIONE TIPOGRAFICO, Torino.
Terapia dell'Afasia e degli altri Disturbi del Linguaggio. Per H. Charlton Bastian, M.A., M.D. Lond., F.R.S. Traduzione Italiana del Prof. Umberto Gabbi. Price 6 lire.

UNWIN, T. FISHER, Paternoster-square, London.
Another Englishwoman's Love-Letters. By Barry Pain. Price 2s.

VIGOT FRÈRES, Paris.
Accouchements et Maladies des Femmes en Couches. By L. Goulard and V. Bué. Price 8 francs.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BOND, FRANCIS THOMAS, M.D. Lond., M.R.C.S., F.R.S. Edin., has been re-appointed Medical Officer of Health by the Cirencester Rural District Council.

CLOWES, ERNEST FRANCIS, L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer to the Wotton-under-Edge District of the Dursley Union, vice B Simmons, resigned.

CROOKSHANK, F. GRAHAM, M.D. Lond., has been appointed Medical Officer of Health for the Urban District of Barnes.

GARDEN, H. W., M.B., Ch.B. Aberd., has been appointed Medical Officer to the Tati Concessions, Limited, Francistown, Rhodesia, South Africa.

GRAY, J. P. W., F.R.C.S. Eng., has been re-appointed Honorary Surgeon to the Nottingham and Notts Hospital for Diseases of the Throat, Ear, and Nose.

HERRICK, R. W., M.D., B.Ch. Dub., been re-appointed Honorary Surgeon to the Nottingham and Notts Hospital for Diseases of the Throat, Ear, and Nose.

KEIR, WILLIAM INGRAM, F.R.C.S. Edin., L.R.C.P. Edin., has been re-appointed Medical Officer of Health for the Melksham (Wilts) Rural District.

MCELNEY, ELIZABETH, M.B., Ch.B. Edin., has been appointed House Surgeon to the Tiverton Infirmary.

SMYTH, HENRY JAMES, L.R.C.P., M.R.C.S., has been re-appointed Medical Officer for the West Buckland District by the South Molton (Devon) Board of Guardians.

STEWART, DONALD, M.D. Glasg., L.R.C.S. Edin., has been re-appointed Honorary Consulting Surgeon to the Nottingham and Notts Hospital for Diseases of the Throat, Ear, and Nose.

THRESH, J. C., D.Sc. Lond., M.D. Vict., D.P.H. Camb., has been appointed Medical Officer for the Rural District Council's Isolation Hospital, Chelmsford.

WATERHOUSE, RUPERT, M.B. Lond., L.R.C.P. Lond., M.R.C.S., has been appointed House Physician to the Royal United Hospital, Bath, vice F. C. Forster, resigned.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BEDFORD COUNTY HOSPITAL.—Senior House Surgeon. Salary £100 a year, with apartments, board, and washing.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—House Surgeon. Salary £80 per annum, with board and attendance.

BIRMINGHAM AND MIDLAND FREE HOSPITAL FOR SICK CHILDREN.—Resident Surgical Officer. Salary £60 per annum, with board, washing, and attendance.

BOROUGH HOSPITAL, Birkenhead.—Three Honorary Assistant Medical Officers.

BOROUGH HOSPITAL, Bootle.—Junior House Surgeon. Salary £80 per annum, with board, washing, and residence.

BOROUGH OF LEICESTER.—Medical Officer of Health and Public Analyst. Salary £500 per annum.

BRADFORD POOR-LAW UNION.—Junior Resident Assistant Medical Officer for Hospital and Workhouse. Salary £100, with rations, apartments, and washing.

BRIGHTON THROAT AND EAR HOSPITAL, Queen's-road.—Non-resident House Surgeon for six months, renewable. Salary at the rate of £75 per annum.

CITY DISPENSARY, 29 and 30, College-street, Dowgate-hill, E.C.—Physician.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE CHEST, Victoria-park, E.—Pathologist. Salary 100 guineas per annum.

DOVER HOSPITAL.—House Surgeon, unmarried. Salary £100 a year, increasing with board, lodging, and washing.

FRENCH HOSPITAL AND DISPENSARY, 172, Shaftesbury-avenue, W.C.—Resident Medical Officer, speaking French, unmarried. Salary £80 a year, with full board.

GLAMORGAN COUNTY ASYLUM.—Junior Medical Officer, unmarried, not over thirty. Salary £150, with board, lodging, washing, and attendance.

GOVAN DISTRICT ASYLUM, Crookston, near Paisley, N.B.—Senior Assistant Medical Officer. Salary to begin at £150 a year, with rooms, board, laundry, and attendance.

HAMPSTEAD HOSPITAL.—Resident Medical Officer for six months, eligible for re-election. Salary at the rate of £120 per annum, with rooms, coals, and gas.

HULL ROYAL INFIRMARY.—Junior Assistant House Surgeon. Salary £60, with board and lodging.

HYDROPATHIC ESTABLISHMENT, Limpley Stoke, near Bath.—Resident Physician.

JESSOP HOSPITAL FOR WOMEN, Sheffield.—House Surgeon, unmarried. Salary £75 per annum, with board, lodging, and washing.

LIVERPOOL HOSPITAL FOR CONSUMPTION.—Resident Medical Officer for new Sanatorium. Salary £300 per annum, with board and apartments.

LONDON OPEN-AIR SANATORIUM, Pinewood, near Bracknell, Berkshire.—Resident Physician, unmarried. Salary £200, with furnished apartments, board, attendance, and washing.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer, unmarried. Salary £150 per annum, with board and residence.

METROPOLITAN HOSPITAL, Kingsland-road, N.E.—Ophthalmic Surgeon.

MILLER HOSPITAL AND ROYAL KENT DISPENSARY, Greenwich-road, S.E.—Junior Resident Medical Officer. Salary £60 per annum, with board, attendance, and washing. For six months, eligible for re-election as senior.

NATIONAL DENTAL HOSPITAL, Great Portland-street, W.—Anæsthetist.

NATIONAL SANATORIUM FOR CONSUMPTION AND DISEASES OF THE CHEST, Bournemouth.—Resident Medical Officer, from April 17th to June 30th. Honorarium for the term £30, with board, residence, and washing (no alcohol).

NEWCASTLE-ON-TYNE DISPENSARY.—Two Visiting Medical Assistants. Salary £160 for the first year, and £180 afterwards.

NORTH LONDON HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Fitzroy-square, W.—Clinical Assistant for six months. Honorarium at the rate of £35 per annum.

ROCHESTER HOUSE, Little Ealing, W. (under the Metropolitan Asylums Board).—Visiting Medical Attendant. Salary £100 per annum.

ROTHERHAM HOSPITAL.—Assistant House Surgeon. Salary £80 per annum, with board, lodging, and washing.

ROYAL CORNWALL INFIRMARY.—House Surgeon, unmarried. Salary £85, increasing by £10 a year, with board (excluding stimulants), and apartments.

ROYAL HOSPITAL FOR DISEASES OF THE CHEST, City-road, E.C.—House Physician for six months. Salary at rate of £60 per annum, with furnished apartments, board, and washing.

ROYAL LONDON OPHTHALMIC HOSPITAL, City-road, E.C.—Senior House Surgeon. Salary £75, with board and residence.

ROYAL SEA BATHING HOSPITAL, Margate.—Assistant Resident Surgeon. Salary £60 per annum, with board and residence.

SCARBOROUGH HOSPITAL.—Assistant House Surgeon for three months. Salary £75, with residence, board, and washing; if approved, to be Senior for twelve months. Salary £90, with residence, board, and washing.

SEAMEN'S HOSPITAL SOCIETY ("DREADNOUGHT"), Greenwich, S.E.—House Surgeon. Salary £50 per annum, with board, residence, and washing.

ST. BARTHOLOMEW'S HOSPITAL, Rochester.—Assistant House Surgeon. The salary is £100 per annum, payable quarterly, with board, residence, washing, firing, and light.

STOCKPORT INFIRMARY.—Junior Assistant House Surgeon for six months. Salary at rate of £24 per annum, with board, washing, and residence.

SUFFOLK GENERAL HOSPITAL.—House Surgeon. Salary £100 a year, with board, lodging, and washing.

THE CHIEF INSPECTOR OF FACTORIES gives notice of vacancies as Certifying Surgeons under the Factory Acts at Wotton-under-Edge in the county of Gloucester, at Peterfield in the county of Southampton, and at Fethard in the county of Tipperary.

UNIVERSITY OF GLASGOW.—Two Examiners in Medicine.

VICTORIA HOSPITAL, Folkestone.—House Surgeon. Salary £100 per annum, with board, residence, and laundry.

WEST HAM HOSPITAL, Stratford, E.—Junior House Surgeon, eligible for election to the post of Senior. Salary as Junior £75 per annum, as Senior £100, with board, residence, &c.

WEST LONDON HOSPITAL, Hammersmith-road, W.—Assistant Surgeon.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Assistant House Physician for six months. Honorarium at rate of £75 per annum, with board, lodging, and washing.

Births, Marriages, and Deaths.

BIRTHS.

AYRES.—On March 22nd, at Talbot House, Brierly Hill, Staffs, the wife of William Ayres, B.A., M.D., of a daughter.

BAXENDELL.—On March 19th, at Hale-road, Bowdon, Cheshire, the wife of Arthur Baxendell, M.R.C.S., L.S.A., of a daughter.

BALFOUR.—On March 25th, at Chard, Somerset, the wife of Tom Stevenson Balfour, M.D., of a son.

BINDLOSS.—On March 22nd, at Harrow, the wife of A. H. Bindloss, M.B., B.C. Camb., of a daughter.

PEARSON.—On March 19th, at Edgbaston, Birmingham, the wife of J. B. Pearson, M.B., C.M., late of Knottingley, of a daughter.

SCOTT.—On March 13th, at Poole-road, Bournemouth, the wife of Bernard Scott, M.R.C.S., of a son.

TRACEY.—On March 24th, at Willand, Cullompton, Devon, the wife of H. Eugene Tracey, M.B., of a daughter.

WORTHINGTON.—On March 21st, at Chesterfield, the wife of Sidney Worthington, M.D., F.R.C.S., of a son.

MARRIAGES.

LAWSON-HANNAM.—On March 20th, at St. John's Church, Buckhurst-hill, Essex, Frank Howard Lawson, M.R.C.S., L.R.C.P., of Steyning, to Katherine Mabel Edith, second daughter of the late George W. Hannam, of Ellerslie, Leytonstone.

THORNE THORNE—SINGLETON.—On March 21st, at Christ Church, Lancaster-gate, W., Leslie Thorne Thorne, M.D., of Inverness terrace, W., to Marcella Mildred, second daughter of Edward Singleton, of Teignmouth.

DEATHS.

JOHNSTON.—On March 23rd, James Crosse Johnston, Brigade-Surgeon A.M.S.

SKENE.—On the 24th inst, at Buckley, Flintshire, William Skene, M.D. Glasgow, F.F.P.S.G., L.R.C.S.E., in his 56th year.

N.B.—A fee of 5s. is charged for the insertion of Notices of Births, Marriages, and Deaths.

Notes, Short Comments, and Answers to Correspondents.

JOHANN HEINRICH COHAUSEN.

In recent numbers of the *Archives Générales de Médecine* some 40 pages have been devoted to an account of the life and writings of Johann Heinrich Cohausen, a Westphalian medical man and miscellaneous writer who made for himself a considerable reputation in the first half of the eighteenth century. He was born in Hildesheim in 1665, and while still a young man showed himself to be a good scholar and possessed of an immense knowledge of books. When a comparatively junior member of the profession he was chosen to be physician to the prince-bishop of Munster, an appointment which he held for many years. Dr. A. Beauvois, the author of the articles in the *Archives*, has made a special study of Cohausen's career and has given the results of his researches to the world in an elaborate biography published in book form in 1900. In August of that same year the *Archives* contained a long account by Dr. Beauvois of Cohausen's treatise on Cinchona, which, he says, has been strangely overlooked by writers on the history and bibliography of that valuable remedy. Cinchona was introduced into Europe in 1640, and medical opinion was still somewhat divided as to its utility when Cohausen wrote in vindication of it a small book with the enigmatical title of "Archeus Febrium Faber et Medicus." A similar fondness for verbal puzzles, sarcastic humour, and quaint turns of fancy is apparent in the titles which he has given to others of his books—such as, for instance, the one written against snuff-taking, the title of which is "Dissertatio Satyrica de Pica Nasi." In the number of the *Archives* for February, 1901, Dr. Beauvois returned to the subject with a lengthy abstract of Cohausen's controversy with Ruysch, the Dutch anatomist, who imagined that he had discovered in the fundus uteri a muscle having the special function of expelling the placenta. Cohausen died in 1750. The list of his works which are in the library of the British Museum occupies an entire page of the catalogue. The book by which he is known to English literature is the "Hermippus Redivivus," a humorous exposition of a scheme for the prolongation of human life to the age of 115 years by inhaling the breath of young women. As one of the means to this end he advises the would-be centenarian to try the effect of becoming a teacher in a girls' school and holding the classes in small unventilated rooms. An English summary of the contents of this work, only two pages in length, appeared in 1743, subjoined to an anonymous volume, entitled, "Dr. Cheyne's Account of Himself and of His Writings," this referring to Dr. George Cheyne, who was born in Aberdeenshire in 1671, practised in London and Bath, and died in 1743. In 1744 John Campbell (born 1708, died 1775) published an English translation of the "Hermippus," which reached its second edition in 1749, and its third in 1771. Boswell says that Samuel Johnson pronounced the volume "very entertaining as an account of the hermetic philosophy and as furnishing a curious history of the extravagances of the human mind." The Rev. S. Baring Gould has devoted to the "Hermippus" one of the chapters of his "Curiosities of Olden Times," published about 1889. In 1885 a reprint of Campbell's translation was published in Edinburgh by Edmund Goldsmid, F.R.H.S.

PLACE OF RESIDENCE FOR A RETIRED SURGEON.

To the Editors of THE LANCET.

SIRS,—Can you or some of your many readers kindly tell a general practitioner who has had 30 years' full work in the eastern counties, where is the best place of residence in England when he retires from work which he intends shortly to do? He is very liable to "catching cold," and suffers slightly from rheumatism and eczema. The locality must, of course, be warm and sunny, yet bracing. His means are limited. If anyone can give him a few hints he will be thankful.

I am, Sirs, yours faithfully,

March 26th, 1901. P. P.

COMMISSIONS AND THE MEDICAL PROFESSION.

THE Preferred Accident Insurance Company of New York, which has opened a branch for the United Kingdom at 74, Cheapside, London, E.C., has sent us some papers calling attention to the business and advantages of the company. We do not venture to express any opinion on the actuarial merits and commercial methods of the Preferred Accident Insurance Company of New York, but we cannot approve the way in which it seeks to entice medical men to become partners and canvassers in its business. It does this in two ways. The company is not content with tempting medical men to insure by "barring the risks of blood-poisoning in a professional operation and without extra premium," but in the event of medical men taking out its policies it purposes to allow a commission of 15 per cent. off the first premium and 10 per cent. off subsequent ones; and for proposals which they "introduce" the company will be pleased to credit them with like commissions. This is a distinct invitation to medical practitioners to become agents in the company's business, and we have

seen in several instances of late years how objectionable such agency is. The company proposes to compile a register of medical men in the various towns and districts of the United Kingdom willing to act as its medical advisers, to examine and to report on every claim under accident and health policies, and invites all and sundry to its service at a uniform fee of half-a-guinea. This fee is not very imposing or very likely to attract many medical men to what is often a very disagreeable and difficult duty. We see great objections to the publication of such a list.

THE SORROWS OF THE PUBLIC VACCINATOR.

A CORRESPONDENT thus describes an experience:—

P.V. (persuasively): Well, Mrs. Jones, am I to vaccinate the baby?

Mrs. J. (indignantly): Oh, but I'm clear on the books, and they take all responsibility (produces her card of subscription to the Anti-Vaccination League).

THE INDISCRIMINATE USE OF ARSENIC FOR AGRICULTURAL PURPOSES.

REFERRING to the report of THE LANCET Analytical Commission on the Scope of Arsenical Contamination Traceable to Impure Sulphuric Acid which appeared in THE LANCET of Jan. 5th, 1901, p. 54, a correspondent (evidently an agriculturist) points out *apropos* arsenic in soils that it is the practice with many farmers to sow white arsenic as a protection from slugs, wire-worms, and birds. The allowance is one pound (7000 grains) per acre. This statement would appear to be quite opposed to the view generally held that plants, especially in the state of germination, are just as sensitive to arsenic as are man and other animals. Our correspondent states that he has seen the men in charge of the drill in a fearful state of inflammation after work from the dry powder dusting their skins. Frequently the emptied packets may be seen blowing from the field on to the highway, some containing a tablespoonful of arsenic, and often whole coveys of partridges are killed. Our correspondent very rightly says that this most dangerous practice ought to be stopped and, further, that there is no necessity for it. We think that this matter might well be brought before the attention of the Royal Commission on Arsenical Poisoning, for, according to our informant, a few inquiries amongst our farm-labourers would lead to some astonishing revelations.

"MÜNCHENER LÖWENBRAU LAGER BEER."

WE regret that owing to an error in calculation, the alcoholic strength of this beer was wrongly represented in our "Analytical Records," published in THE LANCET of March 16th, p. 794. The figures relating to alcohol were based on the specific gravity of the distilled beer being 992, whereas the result obtained was 993. The latter figure gives the following as the alcoholic strength of the beer: alcohol, by weight 3·94 per cent., by volume 4·93 per cent., equal to proof spirit 8·64 per cent. These figures more than ever justify our concluding remark that "the commendable point about Munich beer is that while it is highly nutritious, exceeding in most instances the value in this respect of English beers, it contains a minimum of alcohol."

A QUESTION OF FEES.

To the Editors of THE LANCET.

SIRS,—I was recently attending a patient for an abortion which, she states, was produced by a shock due to a collision whilst riding on a tram-car. I received a letter the other day from the surgeon to the tram-car company stating that he would call at 3.30 the next day to examine the case. I waited on the next day and we saw the case together. On leaving the house he said: "I suppose you will want a fee for this?" I replied, "Certainly, a guinea." "Oh," he said, "the company are not obliged to pay you anything unless they like, but send me in a bill for 10s. 6d. and I will advise the company to pay you." Will you kindly inform me whether I am entitled to a fee and, if so, whether a fee of £1 1s. is a proper fee to charge?

I am, Sirs, yours faithfully,

March 20th, 1901. SPERO.

*** The surgeon to the tramcar company was wrong to this extent, he ignored accepted custom and displayed small *esprit de corps*. When mutual examinations of this sort are arranged by solicitors the injured person's solicitor always arranges for the payment of the medical attendant's fee. Medical men when written to for an appointment should stipulate for the payment of the consultation fee; and it is usually understood that if the patient is examined at the medical attendant's house the fee will be £1 1s., and if at the patient's house, thus entailing a visit, £2 2s. The medical examiner cannot make a proper report without having a history of the case from the medical attendant of the injured person. The alternative would be perhaps to remove dressings or otherwise to interfere with another medical man's treatment, things which are unprofessional and which cannot be done without the patient's consent. The one-guinea and two-guinea fees are not only those usually paid but are moderate. Each consultation may entail letters or visits to arrange the meeting with the patient. The keeping of a fixed appointment is often a difficult matter to a busy medical man. At the interview full description of the case has to be given.—ED. L.

CYCLE PARCEL CARRIERS.

WE have received from the City Manufacturing Co., of 17, Manchester-avenue, Aldersgate-street, E.C., two neat carriers for attaching to the bicycle head which present some decided advantages. The first consists of a net attached to a stout metal hoop provided with a clamp which may be tightened by a screw and nut and fixed upon the pillar of the machine, just beneath the handle-bar. It may be easily attached and its position is not in the least disturbed by vibration when it is properly fixed. The second carrier consists of a framework of light polished metal provided beneath with a Y-shaped strong steel spring clamp. The clamp is forced on to the pillar head where the handle bar forms a T. The inner surfaces of the clamp are fluted so that they may adapt themselves to the pillar-tube easily. Leather straps are fastened to the frame or staging so that small books and parcels or a box of surgical instruments may be safely carried by this means. Nothing is more annoying to cyclists carrying impediments than to find during riding that the parcel carriers have become insecure or worse that parcels have been lost through this insecurity. These carriers may be relied on.

"THE PROGRESSIVE MEDICAL ALLIANCE."

To the Editors of THE LANCET.

SIRS,—I note in THE LANCET of March 23rd, p. 907, a letter headed "The Progressive Medical Alliance" in which the writer states: "It is at least a wonder that associations like the Medical Defence Union ..... allow such grave abuses to remain without apparently any efforts to move them." Will you allow me to point out that I brought the circulars of the "Alliance" before the notice of the General Medical Council in October last and that I received a statement from the registrar in December to the effect that the General Medical Council regretted that at the present time no legal action could be taken against the persons concerned. If your correspondent would forward the circular he has received to the President of the General Medical Council it would have the effect probably of stimulating the action that should be taken.

I am, Sirs, yours faithfully,

A. G. BATEMAN.

Medical Defence Union, Trafalgar-square, W.C., March 23rd, 1901.

BRUNTON'S AURISCOPE.

To the Editors of THE LANCET.

SIRS,—In THE LANCET of March 23rd, p. 871, we notice under the heading of "New Inventions" that you make reference to a "Brunton's Auriscope," to which an electric lamp has been adjusted. As regards any novelty in the idea we made a similar apparatus some years ago at the suggestion of Mr. George P. Field, and it is illustrated in our catalogue of 1880, Fig. 4728.—We are, Sirs, yours faithfully,

JOHN WEISS AND SON, LD.

Oxford-street, W., March 23rd, 1901. (H. C. BEDELL.)

Picric.—1. Any vesicles which may be present are punctured. Then a piece of gauze is dipped into a solution of picric acid (the solution may be saturated) and the gauze is squeezed to get rid of superfluous solution and is laid over the part. A little wool may be placed over this and then the dressing is lightly bandaged on. When suppuration is present the dressing will need daily renewal, but if there is no suppuration the dressing need not be changed for four or five days or even more. 2. This question is a little obscure. A Pott's fracture should never need extension and it is very rarely needed in fracture of the lower ends of both bones. If it is desired to apply traction in such a case a stirrup with strapping passing up on each side of the limb to the level of the fracture will be best. 3. A plaster-of-Paris splint may be strengthened at the hip by means of thin strips of metal with their edges turned up like this, ⊔, which are put between the layers of the flannel or other material. A useful size for these strips is as follows: length 9 to 12 inches and width one inch, before the edges are turned. The flat surface should, of course, be turned towards the patient. Strips of wood may also be used.

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

During the week marked copies of the following newspapers have been received:—*Liverpool Courier, Warrington Observer, Hereford Journal, Wilts Standard, Stirling Observer, Hampstead Express, Sussex Daily News, Eastern Morning News (Hull), Hampshire Advertiser, Blackburn Telegraph, Ilkeston Pioneer, Nelson Chronicle, Norwich Press, York Herald, Walthamstow Express, Western Mail (Cardiff), Malvern News, Manchester Guardian, Scotsman, West Bromwich News, Rugby Advertiser, Hamilton Advertiser, Taunton Express, Weymouth Times, Stalybridge Standard, Oxford Times, The South Africa Daily Telegraph, Sanitary Record, Kentish Mercury, Reading Mercury, Mining Journal, Hertfordshire Mercury, Dorset County Chronicle, City Press, Le Courrier de la Presse (Paris), Local Government Chronicle, Surrey Advertiser, Halifax Guardian, Local Government Journal, Ipswich Journal, Ormskirk Advertiser, Fife Journal, Jersey Express, Eckington Express, Boston Independent, Weekly Free Press and Aberdeen Herald, Devon Evening Express, Evening News (Portsmouth), Daily Express (London), Ramsgate Gazette, South Wales News, &c., &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Mar. 28th, 1901.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rainfall.	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
Mar. 22	30·25	ENE	...	77	45	32	34	38	Overcast
,, 23	30·47	N.E.	...	55	43	37	38	40	Overcast
,, 24	30·39	N.E.	...	58	43	36	38	41	Overcast
,, 25	29·85	N.	0·01	51	39	35	36	37	Snowing
,, 26	29·99	NNW	0·02	81	41	28	Fzn.	32	Cloudy
,, 27	29·73	NNW	0·03	84	42	29	Fzn.	33	Cloudy
,, 28	29·69	N.	...	71	38	28	Fzn.	33	Snowing

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (1st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (2nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

WEDNESDAY (3rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.).

THURSDAY (4th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynecological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

FRIDAY (5th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.), West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.).

SATURDAY (6th).—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (1st).—MEDICAL SOCIETY OF LONDON (11, Chandos-street, Cavendish-square, W.).—9 P.M. Dr. J. Mitchell Bruce: Diseases and Disorders of the Heart and Arteries in Middle and Advanced Life. Lecture III.—Prognosis. Treatment. (Lettsomian Lectures.)

TUESDAY (2nd).—PATHOLOGICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8.30 P.M. Prof. Starling: The Pathology of Dropsy. Dr. Lazarus-Barlow and Dr. Hwart have promised to take part in the discussion.

WEDNESDAY (3rd).—OBSTETRICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Specimens will be shown by the President (Dr. Horrocks), Dr. C. Lockyer, Dr. H. R. Spencer, and others. Paper:—Dr. E. W. Hey Groves: The Pathology and Treatment of Puerperal Eclampsia with especial reference to the Use of Saline Transfusion, with notes of two cases.

THURSDAY (4th).—NORTH-EAST LONDON CLINICAL SOCIETY (Tottenham Hospital).—4 P.M. Clinical Cases and Specimens.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (1st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. M. Morris: Consultation. (Skin.)

TUESDAY (2nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. G. Rankin: Consultation. (Medical.)

WEDNESDAY (3rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Cantlie: Consultation. (Surgical.)

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST (Brompton).—4 P.M. Dr. Habershon: Cases of Mitral Stenosis.

NORTHERN AND MIDLAND DIVISION OF THE MEDICO-PSYCHOLOGICAL ASSOCIATION (Leicester and Rutland Asylum, Leicester).—4.30 P.M. Mr. R. Stewart: (1) Two Cases of Insanity following Chorea; (2) A Case of Rodent Ulcer treated by X-rays. Discussion on the Improvement of our Methods of Obtaining Information on Matters of Asylum Administration and the Advantages of Establishing a Bureau in connexion therewith (opened by Dr. A. Miller, Hatton Asylum). 7.30 P.M. Dinner at the Grand Hotel, Leicester.

THURSDAY (4th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Consultation. (Surgical.)

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